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CHILI being the greatest competitor in the production of copper, the returns of one of the great English stock companies working copper mines in that country, the Panulcillo, will be of interest as showing how large the profits are, even at present prices. During the first half of the present fiscal year, the company produced 3008 tons of matte, containing 1406 tons of copper, and yielding a net profit of £19,608, or over $67 per ton, of copper produce. A dividend of 7½ per cent on the capital stock, aggregating £15,000, was declared.

THE Memorial Address on the Life and Works of ALEXANDER L. HOLLEY will be delivered before the American Societies of Civil and Mechanical Engineers, and the American Institute of Mining Engineers, at the Turf Club (late Union League) Theater, in this city, on Wednesday, November 1st, at eight P.M. We learn that, although some complimentary invitations have been sent by the Committee of Arrangements to persons outside the societies, the joint session will be public and open to all. Prof. R. H. THURSTON, President of the Society of Mechanical Engineers, will preside.

THERE is considerable stir of preparation on the continent and in England for the forthcoming International Colonial and General Export Exhibition, at Amsterdam. The opportunity offered to manufacturers to enter into closer relations, particularly with the rich Dutch colonies, has been very eagerly seized, as it promises to open a field which has hitherto been pretty thoroughly monopolized. There are evidences on every hand that the Dutch government is beginning to realize the importance of developing the neglected resources of its colonies, and of fettering them less closely to the mother country. American manufacturers have now been invited, through the general agent, Mr. S. A. WHEELWRIGHT, of this city, to take an active interest in securing the share which the superiority of their goods entitles them to in many branches of industry.

IT is painful at times to note how the Western "tender-foot" correspondents of some our great Eastern daily journals are fooled by th enthusiastic owners of mines. Their exaggerations are put into print in cold blood, and it is rarely possible to prove their absurdity without going over the same ground. Sometimes, however, they are caught by their own figures. A correspondent of the *Tribune*, in writing of the really remarkable show of chlorides in the Lake Valley mines, innocently says : "Near by, imbedded in the wall of the shaft, was another huge block of horn-silver and chlorides worth $15 to $25 a pound." Unfortunately for the correspondent and those who "loaded" him, a simple calculation shows that with silver at $1.13 per troy ounce, one pound avoirdupois of pure silver is worth $16.48, and chemically pure horn-silver, containing 75·3 per cent of silver, can not by any stretch of imagination be made worth more now than $12.41. Is the same rate of discount applicable to the rest of this correspondent's statements?

DURING the "innings" of the iron ore men, before the Tariff Commission, the other day, some pretty strong statements were made concerning the capacity of American Bessemer ore mines. It is reported to have been said that Chateaugay mines in Northern New York could produce 6,000,000 tons annually ; or, to be perfectly safe, 3,000,000 tons. So far as we know, the Hodbarrow mine in England, producing 1500 tons a day, is the largest now in operation. Mokta-el-Hadid in Algiers, shipped in one year 488,000 tons, part of which was on hand when the year commenced. And we are informed that certain parties who contracted this year for 50,000 tons from Chateaugay have not been able, so far, to get more than 20,000. These figures look queer, alongside of the statements above reported.

But if Chateaugay or any other American locality had such enormous capacity, surpassing tenfold the largest existing mines, would that be an argument for further protecting it by means of a duty? Is it the big things or the little things that need protecting? If nature has given inexhaustible, unparalleled wealth, need man add monopoly? *

WE deeply regret to announce the death, at Orange Park, Florida, of our representative in New York and the Eastern States, Mr. DWIGHT BANNISTER RICH, at the age of fifty-six. Mr. RICH was born at Hardwick, Mass., in 1826, and when twenty years of age went to Boston to seek his fortune. By persistent application to his duties, he worked his way up to the superintendency of the New England Brick Company, and, later on, to that of the Cary Improvement Company. He became one of twenty associates to build the town of Hyde Park, and was a member of the first board of the Real Estate and Building Company. He afterward took charge of the Highland Park Hotel, and conducted the enterprise successfully until he became identified with the North Shore Land Company and the Boston & Revere Beach & Lynn Railroad Company. For years, Mr. RICH was identified with the Scientific Publishing Company. Through all the emergencies, in all the successes and troubles of a busy life, he proved a man of unimpeachable honor and integrity, and preserved a happy disposition, making him stanch friends everywhere. A widow, three children, and a large circle of friends mourn the loss of a true, good man.

WE learn that the edition of Mr. DRINKER'S work on tunneling published in 1878 was exhausted within three years, and that a new edition is about to be issued by Mr. WILEY. The actual progress in the art since the first appearance of this work has not been so great as to require great changes in the treatise itself ; but the author has seized this opportunity to give the work a careful revision, and has added to the chapters on Explosive Compounds, Rock-Drills, and Blastings a considerable amount of new material, bringing the records of practice down to the present time. Among these additions are valuable tables of the latest results obtained in rock-drilling at the Sutro and St. Gothard tunnels ; also, data relating to tunnels in India, furnished by the Public Works Department of that country ; and an account of the difficulties recently encountered in the Hudson River tunnel.

For the benefit of those who already own the first edition, it is intended to publish, in the form of a separate supplement, the chapters containing the principal additions above mentioned. This supplement will be by itself a complete and useful text-book on Explosive Compounds, Rock-Drills, Blasting, etc.

We congratulate Mr. DRINKER on the success of his work, and the profession on this useful and timely extension of it. When it appears, we shall take occasion to point out whatever features of novelty it may present. *

UNDER the name of the Mexican National Mining and Stock Exchange, a company has been formed in the City of Mexico, the scope of which, judging from the by-laws before us, is considerably wider than might be inferred from its title. It is not only proposed to create a mining and stock exchange for the sale of stocks, but also to organize

and promote such enterprises for a commission, and to establish and operate telegraph and telephone lines in Mexico and with foreign countries. For the present, the capital stock will be $100,000, of which ten per cent is to go to the five founders, thirty per cent to be reserved for subscribers in Mexico, and the same amount for the United States and for Europe. Mr. CHARLES W. ZAREMBA, who is now in this city in the interest of the enterprise, informs us that $12,000 have been duly deposited by the Mexican subscribers, among whom are such well-known men as MARIANO BARCENA, F. DE GARAY, LUIS MENDEZ, and others. The new company has very wide powers, and we understand has close relations with prominent officials of the government. The capital now asked for is merely for purposes of organization, and may be enlarged to "one million or more." That there is a very wide field for such an enterprise in a mining country like Mexico there can be no doubt, and as the standing of those connected with it is high—many of them being prominent mine-owners and business men—there is no doubt but that it will be conducted with skill, energy, and honesty.

IN our issue of July 29th, we gave a summary of the report for 1880 of the Department of Mines of New South Wales. In almost all departments of the industry, the improvement has been satisfactory; though it appears that the causes which have tended to retard progress are still potent. It is an encouraging feature for mining in the colony that production was maintained so well, although the drought in many important districts was worse than ever experienced before.

The average yield of gold from quartz reefs improved somewhat, as the following table, comparing 1880 and 1881, will show. Still, the high record of 1879, when the average was 1 ounce 5 dwts., 7·81 grains, has not yet been reached:

AVERAGE YIELD OF QUARTZ MINES IN NEW SOUTH WALES.

	Quantity crushed.		Average yield.					
	1880.	1881.	1880.			1881.		
District.	Tons.	Tons.	Ozs.	Dwt.	Grains.	Ozs.	Dwt.	Grains.
Bathurst	5,811	2,861	0	5	11·99	1	4	0·29
Tambaroora and Turon	4,183	652	0	15	6·72	1	6	15·24
Mudgee	2,420	380	0	9	17·25	0	1	22·39
Lachlan	3,023	4,172	0	12	12·48	0	10	17·17
Southern	2,102	3,471	1	0	0·28	0	9	13·91
Tumut and Adelong	2,528	4,209	1	4	4·13	0	17	21·73
Peel and Uralla	2,447	1,969	0	17	1·85	1	0	7·81
Hunter and Macleay	2,082	5,406	1	15	21·88	1	8	10·78
Total	24,664	23,231	0	15	17·54	0	18	23·54

It will be noted what fluctuations the yield of the quartz in the different districts is subject to, and that, notwithstanding the fact that large deposits of gold-bearing quartz are known to exist, our Australian friends have not yet reached the point where they crush enormous quantities of low-grade ore, rather than hunt for richer bodies, with alternate times, of plenty and of poverty. The total given is, of course, only a small proportion of the whole, but it is accepted as representing a fair average. This is not quite true of the following tables of the average yield from the alluvial mines or placers, because the table does not include the returns from some of the largest mines. The average is, therefore, probably too high:

AVERAGE YIELD OF THE ALLUVIAL MINES IN NEW SOUTH WALES.

	Quantity.		Yield.			
	1880.	1881.	1880.		1881.	
District.	Tons.	Tons.	Dwts.	Grains.	Dwts.	Grains.
Bathurst	21,361	21,472	3	18·74	3	18·66
Mudgee	3,090	.....	6	16·00	..	.....
Lachlan	33,443	9,347	5	3·82	4	20·56
Southern	230,790	56,180	0	4·34	0	19·05
Peel and Uralla	3,500	18,500	2	18·85	0	3·34
Total	392,184	105,499	1	2·73	1	15·51

In 1879, only 68,697 tons averaged 3 dwts. 3·34 grains; in 1878, 70,552 gave 2 dwts. 10·13 grains, the washings in the low-grade southern district being small. In 1877, the quantity returned was 200,846 tons, the average being 1 dwt. 2·32 grains, the southern district stepping in with 143,309 tons at 5·31 grains per ton.

The following figures for the years 1878, 1879, 1880, and 1881 will show the relative importance of the alluvial and quartz mines of the colony, according to the mining registrar's returns:

	1878.	1879.	1880.	1881.
Gold, alluvial, ounces	48,472	48,018	85,800	99,653
" quartz, "	41,179	26,138	35,274	35,867
" total "	99,168	109,072	121,674	154,006
Men employed, alluvial	4,734	6,476	11,449	5,771
Of which Chinese	1,693	1,896	1,603	1,338
Men employed, quartz	2,340	1,826	1,996	1,942
Value of machinery £	306,532	221,950	321,264	335,115

The total of these "mining registrars'" returns is somewhat higher than those of Mr. HARRIE WOOD, Under-Secretary for Mines.

The high price of tin has had a very important effect in stimulating both production and prospecting in the face of the severe drought, so that the returns do not fully represent the full capacity of the mines now in shape to work, under ordinary circumstances, and this is particularly true of the important districts Vegetable Creek and Maryland.

Notwithstanding the low prices of copper during the year 1881, the mines of New South Wales have continued to ship ingots and regulus on the same scale, and this is justly regarded as a proof that they are fully capable of competing with other great producing districts in the markets of the world.

The coal trade has, as will be seen, extended very greatly, principally owing to a greater demand for export to foreign countries.

In conclusion, we may give the following table, which admirably illustrates the decline of some one industry and the growth of others:

PRODUCTION OF COAL, PRECIOUS AND BASE METALS IN NEW SOUTH WALES.

Year.	Gold. Ounces.	Silver. Ounces.	Coal. Tons.	Copper. Tons.	Tin. Tons.	Pig-Iron. Tons.
1871	323,610	71,312	898,784	1,444	.....	.....
1872	325,130	49,545	1,012,426	1,452	896	.....
1873	361,785	66,998	1,192,862	2,846	4,571	.....
1874	270,823	78,027	1,304,567	4,610	6,219	.....
1875	230,883	52,553	1,329,729	3,677	8,080	40
1876	167,412	69,179	1,319,918	3,275	6,958	2,680
1877	124,111	31,409	1,444,271	4,513	8,924	2,600
1878	119,665	60,563	1,575,477	5,219	7,210	900
1879	109,650	83,164	1,583,381	4,142	5,921	1,118
1880	118,600	91,419	1,406,180	5,394	6,159	2,322
1881	149,627	57,254	1,775,224	5,494	8,200	6,560

For the first time, New South Wales has become an important producer of antimony, having made 539 tons in 1881. In the above figures for copper and tin, small quantities of ore and regulus are included, so that, reduced to ingot, the quantity of ingot is from 100 to 200 tons less than the figures given.

ECONOMIC MAP OF FRYER HILL, LEADVILLE, COLO.

Mr. Robert Bunsen, E.M., has drawn for us the accompanying economic map of Leadville, showing the aggregate output of the mines up to July 1st, 1882. He makes the total value of silver and lead obtained from the ore taken from an area of less than 3250 by 3500 feet $20,540,563, by placing the value of silver at $1.12½ and that of lead at 5 cents per pound. Mr. Bunsen desires to acknowledge his indebtedness to Messrs. R. N. Clark, of the Chrysolite; F. Guiterman, of the Little Chief; E. C. Gilman, of the Little Pittsburg; T. Van Wagenen, of the Amie and Climax; H. A. Ford, of the Dunkin; L. C. Leonard, of the Matchless; J. D. Fleming, of the R. E. Lee; A. V. Bohn, of the Forest City; and E. Eddy, of the Little Sliver, for their courtesy in giving him accurate data of the output of the mines of which they are managers. Mr. Bunsen's carefully executed map will explain itself. It shows the claims of the different mines and their yield.

CORRESPONDENCE.

[Communications will be noticed only when accompanied with the full name and address of the writer. Unless specially desired, only initials will be printed. We invite criticism and comment by the readers of the ENGINEERING AND MINING JOURNAL. Replies not intended for publication should be addressed to the Editor of the ENGINEERING AND MINING JOURNAL in blank, stamped, and sealed envelopes.]

Raising Water from Mines.

EDITOR ENGINEERING AND MINING JOURNAL:

SIR: Nothing is more needed to-day than some better system of raising water from mines. The old Cornish pump is an admitted nuisance in nearly all its arrangements, and the direct-acting steam-pump is also much objected to on account of the leakage of steam, the condensation of the supply-pipe, the necessity of exhausting to surface, and, lastly, the danger of flooding. I believe that there is an easy road out of all the above-named difficulties by the use of the air-compressor. Some cheaper machine must be got up, however, for new mines starting on a limited capital. Perhaps some of your readers could make suggestions.

CHARLOTTE, N. C. J. C. W.

Our correspondent's craving for cheaper machinery for pumping water from mines is shared by many, and the objections he cites against the Cornish and direct-acting pumps are unfortunately only too true in many cases. But are they necessarily inherent in the design of the machinery? The various direct-acting pumps now in the market have deservedly obtained a very high reputation for efficiency, and class with the best of machinery in design and execution; but they are only too often shamefully neglected. We believe that much of the trouble which they are accused of giving is due—not to the machine, but—to the manner in which it is used. We believe that the percentage of those who cover their pipes with insulating material, and protect them against jars and blows, is very small, nor is the sump capacity of most mines at all adequate. Our correspondent, like many others, has severely felt the trouble which a direct-acting pump may give; but instead of seeking to guard against it by judicious, simple, and cheap arrangements, he seeks relief by asking for something else. The same is true in regard to Cornish pumps, which it is true demand constant care and watchfulness, without which they become a continual cause of delay and expense. For shallow depths and limited quantities of water, the simplest and cheapest contrivance is the ejector, which is besides very serviceable in sinking winzes below the lowest levels. For large bodies of water in shallow openings, the pulsometer has conquered a leading place.

Our correspondent's suggestion of the use of compressed air is likely to find a limited application only, while transmission of power by hydraulic pressure is now attracting much attention, and is destined to occupy an important place. As a rule, too little attention is paid also to the subject of cutting off the access of water to the mine workings, and the elaborate systems of lining shafts and headings with cast-iron tubing and masonry used abroad are very rarely employed in this country. Nor is proper care taken to avoid those parts of the country-rock known to be water-bearing, or to prevent the surface water from entering into the mines. We believe that reform is not so much to be sought in endeavoring to devise new machinery as in better care and utilization of what we now possess, and in applying the known methods of keeping the water out.

THE RITTINGER PERCUSSION-TABLES.—In the concentration-works of the Silistria mine, Germany, plates of glass have been used to cover the surface of the Rittinger percussion-tables at work there. They rest upon strips of rubber laid on the angle-iron frame, to which they are attached by screws provided with rubber washers. The tables are running at from 280 to 300 strokes per minute, the length of stroke being adjusted between the range of 0·24 and 0·36 inch.

THE FUTURE OF MEXICAN RAILROAD AND MINING ENTERPRISES.

Written for the Engineering and Mining Journal by W. B. Devereux, E.M.

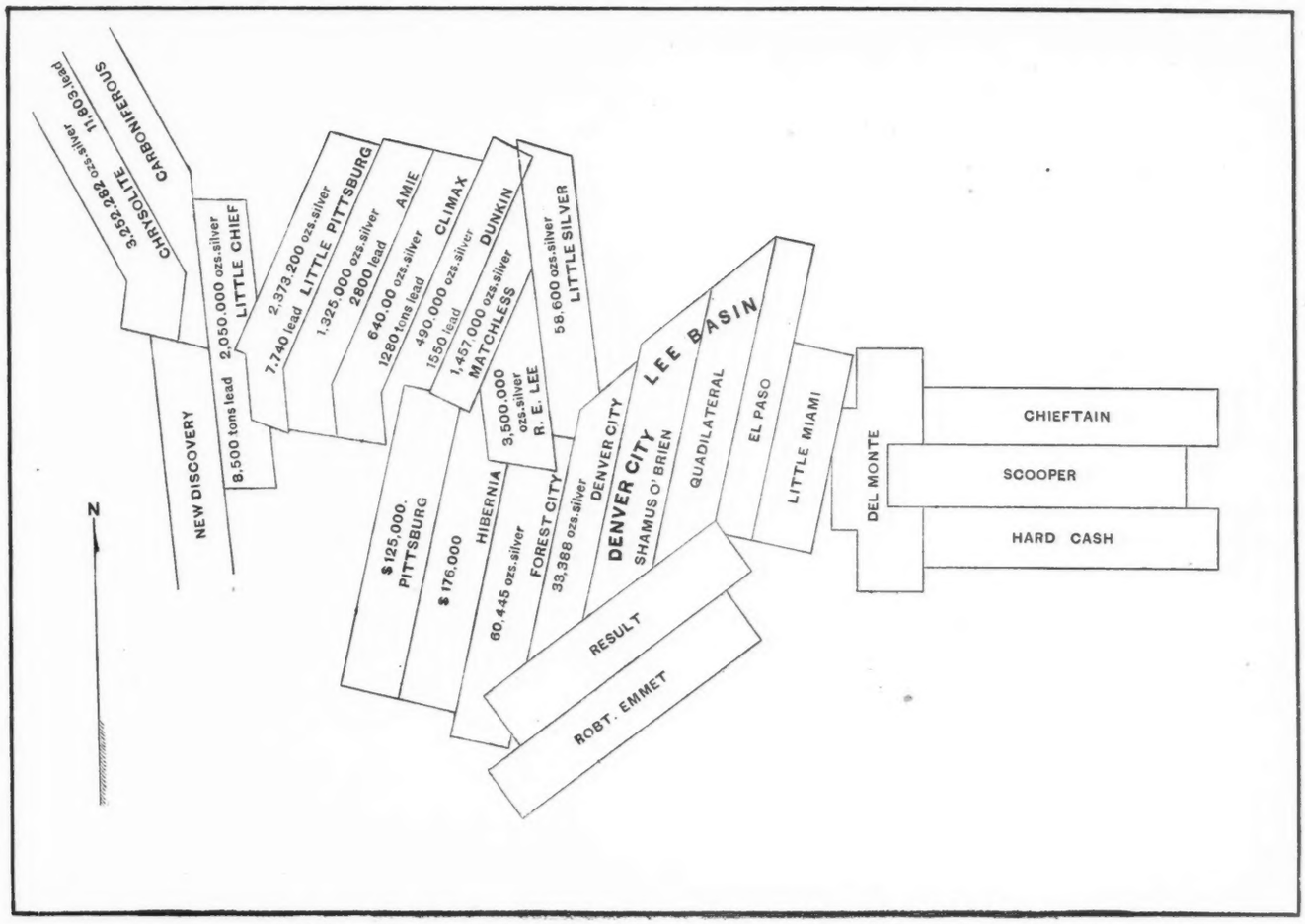
Assuming that the present needs of the country will furnish a given amount of railroad traffic, we may rationally expect a stimulation of trade through the natural operation of two distinct causes.

The first is the inevitable increase in the wants of the people, consequent upon the establishment of railroads, which they themselves will directly and indirectly supply the means to meet. I have watched the operation of this law in secluded districts in the South, where, until the advent of the railroad, ignorance and prejudice against new tools and new methods were almost on a par with those now existing in Mexico. Of course, the operation of such causes is slow, and has a growth like the growth of a people; but it is none the less irresistible, although almost invariably resisted.

Many people assume that, because the Mexican laborer has lived for generations on corn, beans, and chili, and has worn cotton cloth and leather sandals, he will always do so from preference. I find that he is very willing to better his condition if he gets more money, but that he is averse to increase his earning power by increased labor and improved methods. This, again, is the simple expression of the results of causes operating in the past. This resistance to innovations can only be successful in isolated districts, and must succumb where railroad facilities are established. Many property-owners, educated abroad and familiar with foreign methods, have sought to increase their production by improved appliances. The first attempt is generally a failure, but success will follow perseverance. One proprietor at whose *hacienda* I stopped told me that he tried to introduce American plows, but that after a day's trial his men threw the plow-points into the lake. The reason, which would scarcely be suspected, was this: The plows were drawn by mules which walked so much faster than the oxen used with the native plow, that the men found they were doing more walking, and consequently more work than the established quantity. In the more northern States, I was told that American agricultural machinery has obtained a good foothold. American sewing-machines are already found in the most remote districts. The want of repairing facilities is at present one of the greatest drawbacks against the use of machinery, and one that railroads will gradually remove.

The second important cause which will operate to create traffic, and immediate traffic, will be the large amount of foreign capital which will be devoted to the development of Mexican enterprises. This capital will be, or should be, under energetic and skillful management, which can operate unskilled native labor with highest degree of efficiency possible. Such enterprises will be productive to the railroads, not only through the consequent direct traffic in supplies and productions, but through the indirect traffic arising from an element of population non-productive from an agricultural stand-point. Mining enterprises are taking the lead in this respect; and without discussing the question of their desirability as investments, it can not be doubted that they will form an important adjunct to railroad lines in the interior. People are only just beginning to realize that there is establishing in Mexico a better order of things, which gives promise that security of life and property will become known as a natural condition of the country, and not a passing circumstance. I found a very hopeful feeling in this respect among the most enlightened men whom I met; men who held, combined with sincere patriotism, broad and liberal views acquired through foreign education and associations. The immense advantages which the government is acquiring in the shape of railroads and telegraphs, afford facilities for placing troops at the most remote points with a minimum loss of time; a fact which goes far toward dispelling the fear of local revolutions. In the past, a common object of these revolutions, namely, the collection of enforced loans, could generally be accomplished before any sufficient force could arrive.

While in the City of Mexico, I was assured by deputies from the States that the repeal of the bullion tax was constantly urged, and that it was only a question of time; and in Guadalajara, a gentleman who received by telegraph the news of the repeal, told me of it with much satisfaction. If I am not over-estimating the importance of the mining industry as a future source of revenue for the railroads, it becomes a matter of great importance to them to foster this industry, and to treat it with the utmost liberality consistent with profit to themselves. The advantages accruing to railroads in this respect can not be measured by the actual expenses for transportation incurred by the mines. The whole expense of mining in the end is found paying its percentage to the railroads. Every dollar paid to the workmen or into the adjacent country means an increase of buying capacity, which the railroad supplies. If, then, railroads will adopt the policy of carrying the prime necessities of mining at a moderate profit, they will encourage development which would otherwise be impossible. I have seen the contrary policy so strongly exemplified in the West that I hope it will not be carried out in Mexico, to what I believe to be the loss of both parties. A Western road, in its published tariff of freight charges on ore, gives rates according to the value of the ore, and says furthermore, that ore arriving at destination will be sampled and assayed at owner's expense, and freight charged accordingly; also, that above a certain value, ore should naturally go as express matter, and will be so regarded. Since by mining or by concentration it generally costs as much to obtain a ton of rich ore as ten tons of poor ore, but little encouragement can be found for the miner in the above plan. The Vera Cruz road has pursued a policy in this respect not much wiser. A charge of $55 per ton from Vera Cruz to Mexico is exacted for machinery. While the government imposes a light duty on mining machinery, the lack of main lines of railroad and the scarcity of wagon-roads make its introduction very difficult. In this respect, the completion of a railroad line through from the north will be a great advantage, in that it divides the



ECONOMIC MAP OF FRYER HILL, LEADVILLE, COLO. BY ROBERT BUNSEN, E.M.

country longitudinally, and also makes communication with the States effective and rapid. As to the safety of the country, I may say that I traveled on horseback eight hundred miles with but a single American companion, and without escort, guide, or interpreter for a large portion of the distance. No foreigner, however, should travel alone, since a single man runs great risks where two could travel with impunity. From Guadalajara I made a circuit of five hundred miles into the interior of the State of Jalisco. An American is almost an unknown experience in this region, and the comforts of travel a condition entirely absent. I passed many fine *haciendas* or plantations, one of which, the machinery superintendent told me, produced nearly two million pounds of sugar a year, which, with sugar-cane, brandy, and other products, yielded a net income of $100,000. A large proportion of these products are bought at the plantations by traders, and the prices are better than could be obtained here. This hacienda obtained its water for irrigating the cane from a large lake formed by constructing two immense stone dams. One can not but admire the skill shown in constructing these dams, and the aqueducts which carry the water across depressions. Traveling rapidly through this country without equipments for camping, we were often compelled to endure privations and discomforts. No one shoud go in this way unless he can eat the fare of the people and sleep as they sleep. Although theirs is not an appetizing diet, I found that I could endure more fatigue and could travel better than when eating the equally inevitable bacon and baking-powder bread of our own frontier life.

Throughout the coast range, the ores are very base, and similar to some of our Arizona ores. They can only be treated separately by roasting and chloridizing. The natives grind the ore in arrastras, dry the pulp, roast it with salt, and treat in the *patio*. They admit their inability to obtain a high percentage, and certain ores they do not treat at all. As I have said before, they are exceedingly skillful in obtaining the best results possible to their own methods, and ought to make good workmen for carrying out improvements, especially where nice judgment is involved. I saw them making copper from copper pyrites, where, after roasting, the first smelting gave a good cake copper; this being melted a second time, yielded a product which could be rolled into perfect sheets or hammered into kettles. In these mountains I saw two *haciendas de beneficio*, or mills, in process of construction. They consisted of stamps with square wooden stems and iron heads. The power was an immense overshot water-wheel, the shaft of which was also the cam-shaft for the stamps. The ore was settled in stone tanks, and then worked by *patio*. These men also construct hand lifting-pumps, the barrels of which are made of two pieces of pine gouged out to form a cylindrical interior, and then hooped together.

I believe the most successful mining in Mexico will be carried on by those who are willing to combine American and Mexican methods. The Mexican can not adapt himself at once to our ways of doing things, and, to a certain extent, must be humored. The universal feeling that the employment of machinery will make many of them idle must be dispelled, as it easily can be when they are made to understand that a machine necessitates and makes possible the employment of a large additional force. Furthermore, in making estimates of cost in a given locality, allowance must always be made for the fact that prices will be largely increased by any great demand. Thus, I visited a locality where charcoal was delivered for about $1.50 a ton, in small quantities; yet a demand for a constant supply could not be met without not only increasing the price largely, but also bringing in a large addition of labor. Add to this the instability of labor and the petty annoyances which the authorities are not above inflicting, and it will readily be believed that mining enterprises must be inaugurated with caution and with a knowledge of the conditions imposed by the country. Although Western experience indicates that much capital will be invested recklessly, and without a proper appreciation of the conditions of success, yet it is to be hoped that this promising field now opening up will exhibit a mining industry under better aspects. I found mine-owners anxious to have American capital and machinery, and willing to make more concessions than would be granted in our Western territories. Mining enterprises in Mexico must be regarded in their inception as development enterprises, since mines capable of a fixed output are not to be had, as a rule. Quick returns are not to be expected; but there are many mines which present evidences of much promise for their future, under proper conditions.

For these reasons, I believe that the first railroad completed from the north to the south will mark a new era in Mexican history. Much American capital will flow across the border which would never go around by the gulf. That a large emigration into Mexico of the laboring element will take place, I do not anticipate. The inducements are not sufficient at present. To the native races, and especially to the unmixed or Indian races, I believe Mexico must look as the source of the future laboring element which shall work to the best advantage of the country. Among these latter, in the secluded districts, I found an exhibition of honesty and independence of spirit which augurs well for their future, when civilizing influences are brought to bear upon them, provided the curse of Mexico—native intoxicating liquors—can be kept in subjection.

NEW YORK, October, 1882.

THE PECULIAR FEATURES OF THE BASSICK MINE.*

By L. R. Grabill.

The Bassick mine, located six miles east of Silver Cliff, Colorado, has, ever since its discovery, been noted for peculiar features. Some of these characteristics exist in one or two other mines, while some are entirely unique.

Among these peculiarities, I have selected the most noticeable for treatment in this paper.

First. The method of deposition of the ores, which is not, as in ordinary veins, in strata or layers parallel to the walls of the fissure. The ores are arranged in concentric layers upon detached and abraded fragments of the walls; each ore in a separate stratum, and always in the same order.

Second. The characteristics of the fissure or opening; its shape and dimensions; its contents, or the vein-filling; and its verticality.

Third. The peculiar products of the mine. The most noticeable of these products is charcoal, which is occasionally and at long intervals found throughout the ore-body, and in the surrounding conglomerate, from the surface to the present depth, which is something over eight hundred feet. The existence of charcoal here is, as far as I know, the only instance of its discovery in mines of metallic ores.

Fourth. Besides the charcoal, there are also products, in themselves not peculiar; but whose manner of arrangement and composition are unusual.

The mine is situated near the center of a small rounded hill, of eruptive trachytic rock and feldspathic conglomerate. The diameter of the base of this hill varies from 700 to 1200 feet, and its hight is 200 feet above the general level.

A cliff or outcrop of fine conglomerate is exposed on the southwest side of the hill. On the northeast, it joins by an upward slope the fine-grained, hardened feldspathic paste of Mount Tyndall, which rises 600 feet higher, and of which the elevation containing the Bassick mine thus forms an arm.

The attention of a visitor to the mine, whether he is a scientist or not, is immediately attracted by the unusual method of arrangement of the ore. It is seen to be disposed in concentric layers around fragments of trachyte. These fragments, of which each one constitutes a nucleus for such a concentric arrangement, vary in size from boulders having a diameter of sixty centimeters or more to pebbles whose diameter is not greater than one centimeter. The sizes most common have diameters of from ten to thirty centimeters. They have no sharp or rough edges or corners, but evidently have been much worn by water and friction before the deposit of the metalliferous minerals took place. The shape is usually approximately spherical. They are formed of trachyte precisely similar in character to the country-rock, and are without doubt a portion of it. When separated from the surrounding shells of ore, they rarely show by assay any thing but a trace of precious metals. These, with their coatings of ore, and quartz, and kaolin constitute the greater part of the filling of the fissure. Neither barite nor calcite, nor any of the usual spars, nor crystalline alkali-earth minerals are found in the deposit.

As previously stated, around each one of these water-worn fragments, as a nucleus, are arranged concentric shells of ore, each particular mineral in a separate layer, always following each other in the same order, of about the same proportionate thickness, and all the layers being parallel to the surface of the nucleus. Usually three, sometimes four, distinct layers are seen, firmly joining each other in immediate contact, but with the line of separation perfectly plain.

The first stratum, next to the nucleus, and invariably the thinnest, is a mixture of the sulphides of zinc, antimony, and lead. The shells of this vary in thickness from the finest hair-line in the outer portion of the ore-body to sometimes five millimeters nearer the center; but they are usually from one half to one millimeter through. This shell usually carries about sixty ounces of silver per ton, and from one to three ounces of gold; but it varies much in composition and richness. It has a metallic luster, a black color, a hardness of about 4, and is crystalline.

Often there is found between this coating and the next a second coating, lighter in color, slightly thicker when apparent, and containing more lead, silver, and gold than the previous one. This coating frequently contains as high as 100 ounces of gold per ton, and from 150 to 200 ounces of silver. It is not always distinctly to be observed.

The third shell, counting from the nucleus outward, is sphalerite. It is from five millimeters to five centimeters thick, with the mineral beautifully crystalline. It contains usually from 60 to 120 ounces of silver per ton, and from fifteen to fifty ounces of gold, and constitutes the principal source of value in the mine. It shows also a considerable amount of iron, and some copper. Often it is the outside coating of the whole. The inner surface is smooth; the outer is rough, with the points of the crystals projecting.

The fourth coating, when there is one, is formed of chalcopyrite. It varies much in quantity. Sometimes it consists merely of crystals, sparsely scattered over the rough pointed surface of the sphalerite; sometimes it attains the thickness of one or two centimeters. This carries as high as 50 to 100 ounces of gold per ton, and about the same amount of silver

Outside of this is occasionally, though rarely, a fifth thin coating or sprinkling of pyrite crystals.

Surrounding all, especially where the larger interstices occur, but not usually found among the smaller pebbles near the outer edges of the ore-body, is found kaolin. This exists, however, not as a coating, but rather to complete the filling of the crevices formed between the boulders.

The fragments of rock on which these shells are, are not necessarily in close contact; nor do they fit into each other in any way, as the pieces of a seamed or shattered mass might do; but resemble in arrangement and in general disposition something like a loose pile of water-worn stones which have been carelessly thrown into a heap or into a pit, if that is better; and have afterward been coated with their precious coverings. But one most peculiar fact regarding this deposit, and one which I am at much loss to explain, is, that the nuclei or barren fragments are rarely tangent to each other, but the shells surrounding them *are* so tangent. Thus, where we should reasonably expect to find actual contact between the boulders themselves, we frequently find instead, at the point of approximate contact, two separate shells of ore between them, one belonging to each nucleus; thus showing that, although the similar coatings on different nuclei must have been deposited at the same time, the fragments could not at that time have been in contact. What supported them during the period when the coating was taking place seems to be as much of a mystery as was to the ancients the base on which Atlas stood.

The only other mine with which I am familiar which has this concentric arrangement of minerals around a barren nucleus is the Bull-Domingo, only seven miles from the Bassick. But there the ores and country-rocks are different, it having galenite and then siderite deposited on the nucleus of the syenite; and practically the ores contain no gold.

The Fissure, which in itself constitutes one of the first peculiarities of the mine, is an irregular opening, nearly elliptical in horizontal section

* A paper read at the Colorado Meeting of the American Institute of Mining Engineers.

varying in diameter; the shortest distance across it being sometimes as low as twenty to thirty feet, and the greatest length approaching one hundred. It has been found that for over eight hundred feet its downward direction approaches the vertical very closely, though it winds slightly. It has, in horizontal direction, no defined termination. There are not, as in ordinary fissures, any signs of a wall of country-rock, nor even a change from the character of the rock found filling the fissure, except as it shows less the marks of decomposition by solutions. There have been found no continuations or "extensions" of the ore-body or of the fissure; although such have been carefully sought for, and it has often been claimed that they have been discovered. Ever since the mine was first opened, some defined limit which might be termed a wall, or at least a definite boundary to the fissure, has been the object of much exploration, but no such thing has been discovered. It is true, of course, that there is a limit to the "pay" of the ore-body; and this has determined a limit of working.

The ore is richer nearer the center of the body, the layers or shells, called "scales" in the vocabulary of the mine, being thicker there and containing a larger proportion of the precious metals; and as the edges are approached, it "thins out," and gradually becomes poorer, until at last it is too poor to work. The sphalerite scale predominates in the middle of the body, while farther out we find only the thin and poor first shell. The size of the rounded and polished fragments of porphyry, which are the principal filling of the fissure, is also greater near the center of the opening. This leaves, of course, larger interstices, in which the larger combs could be formed. As one departs from the center of the body, the fragments decrease in size, and the scales of ore in thickness. The character of the ore changes in some degree as the shells become thinner and the pebbles smaller. Continuing our course outward, at last we merge, without having passed any particular line marking a boundary, into a conglomerate composed of the small rounded pebbles of feldspathic rock, cemented by a hardened trachytic paste, but containing no ore-shells. This conglomerate shows at first, after no more scales of ore can be discovered by the eye, traces of the precious metals; but finally, still farther from the center, none. The limit of the pay is thus practically determined by assay; that being removed which will pay for concentration, while that is left which will not do so. It is, of course, only possible to determine this by repeated tests.

Again, in the same manner, without finding any special defined boundary to this conglomerate, we merge into the country-rock. This is of the same feldspathic nature, gray in color, and eruptive, but it is not a conglomerate. This country-rock is the same on all sides of the ore-body. There is no different rock apparent on the surface or discovered by any drifts. There is no sign of any contact in the immediate vicinity; no sign of an extended fissure. The contact between the rhyolitic granite of the surrounding region and the eruptive rocks is from one quarter to one half of a mile distant, but has not been shown to have any connection with this opening.

A theory of the manner of deposition of this ore, based on these facts and others, is difficult to arrive at; but would be somewhat as follows:

The present ore-deposit has been the scene of action of a mineral spring or geyser carrying the minerals in solution in its waters; the whirling flowing motion of the water causing the fragments, which have been broken from the wall and with which the fissure was nearly filled, to grind with much friction against each other, has rounded and polished those fragments; and afterward, at a different period, the ore has been deposited.

Another fact to be noticed is this: That the first and thinnest coating deposited is the same in all cases, and is found to be the inner coating of the large boulders as well as the sole covering of the smaller pebbles; being the antimonial and very impure sulphide of lead, already mentioned, resembling Jamesonite sometimes. The fact that this scale is *always* present, while in the outer and more compact part of the deposit the sphalerite scale is nearly always absent, would seem to indicate that, with the circumstances first favorable for the deposition of shell No. 1, this coating formed in the *smaller as well as the larger* crevices, and among the pebbles on the outer limits of the loose mass; and completely closed and filled most of the smaller crevices, preventing access of other solutions afterward, and thus preventing the subsequent deposit of sphalerite there.

Other products of the mine, quite noticeable, but occurring in smaller quantities than those already mentioned, are calamine, Smithsonite, Jamesonite, galenite, tetrahedrite, the tellurides of silver and gold (though the latter are in quantities as minute and so mixed with other ores that they can rarely be detected), free gold, quartz, and charcoal. The calamine and Smithsonite are found only among the upper or oxidized ores, above the water-level; and are, of course, the result of the decomposition of sphalerite and other combinations of zinc. Most of the free gold also is found above the water-level, in wires and other of the usual forms. The tetrahedrite never occurs as a shell or coating, but always filling vacancies outside of the coated boulders, and is always found intermingled with quartz. It is impure, and sometimes, mixed with it, small broken bits and portions of the first and second coatings are distinctly to be recognized; but never portions of the third or sphalerite layer. In the same mass also are contained the tellurides of gold and silver. The whole is, in the nomenclature in use at the Bassick, termed "tellurium." I am indebted to Prof. Charles E. Wait, of the Missouri School of Mines and Metallurgy at Rolla, Miss., for the results of determinations of tellurium in two specimens. One gave him five one hundredths of one per cent; the other yielded eight one hundredths. This ore contains from two hundred to three hundred ounces of gold per ton, and from one hundred to two hundred ounces of silver. It occurs granular, massive, non-crystalline. It is sometimes soft, but is often so siliceous as to be very hard.

The quartz in the mine seems to be wholly a residue from the decomposition of silicates by impregnating solutions, or by solutions from altered sulphides. It is found, like the tetrahedrite, occupying the open space outside of the coated boulders, and never within them, and it serves partly to act as a cement to hold the mass together. It appears in many singular shapes, resulting principally from the forms of the crevices in which it exists; such as those of bones of animals, sea-shells, and twigs and limbs of trees. The fancied resemblances have given rise to the idea that some pieces of the quartz are petrified vegetables and remnants of animals; but such is not the case. This quartz is mostly amorphous, rarely showing any traces of crystallization; when it does so, it is amethystine. Often it appears to have been deposited in a gelatinous state. It ranges in color from pure opaline white through gray, blue, and brown shades to black.

But the most striking among all the features of the mine is the existence of charcoal. This is found in cavities between the coated boulders, and toward the outer edge of the ore-body, and is not necessarily adjacent to ore. It does not often occur, but has been found both near the surface and at great depth.

The last pocket of charcoal of which I am aware was discovered last winter at a depth of about 765 feet from the surface. It was broken open by a blast, and was much disturbed and torn to pieces. There must have been, judging from the pieces I afterward saw, a space equal to a cube with an edge of thirty centimeters filled with charcoal. Other pockets of about the same size, and smaller ones, had been found previously. It was most common near the water-level, or the base of the hill. The last appearance was not in the pay-ore proper, but was in the surrounding conglomerate, which was firmlyattached to the outer portion of it, so that specimens could be obtained containing both the rock and the charcoal. The grain of the wood was distinct, showing the lengthwise fibers and in cross-section the circles indicating the growth. It was mostly soft and friable, easily soiling the hands, and having the texture and appearance of ordinary charcoal; but some of it was silicified to such an extent that it presented nearly the characteristics of very hard, black quartz. Nearly all of it has the pores filled with glittering crystals of pyrite, deposited there by infiltrating solutions. The softer portions of the coal will glow and finally burn under the blow-pipe; but the siliceous parts remain nearly unaffected. I have one specimen of this coal which shows distinctly the circular cross-section of the trunk or branch of a tree some four or five centimeters in diameter, while attached to this are both barren porphyry and rich ore. The section is from three to four centimeters long. Part of the rings in the charcoal have been replaced by rings of crystallized minerals. This specimen is from the upper levels of the mine, and consequently shows the oxidized ore. Pieces containing quartz, porphyry, and ore often appear.

It might be possible, by the use of the microscope, to determine, from the exposed grain of the charcoal, the nature of the wood from which it is formed, but this must be left to the botanist.

The appearance of this coal, at a depth of eight hundred feet, in eruptive, unstratified rock, is almost phenomenal. It will doubtless continue to be found still farther down, as the sinking of the mine progresses. Although the surrounding rock is a conglomerate, there are no indications, except the coal, that it was ever on the surface; besides, its occurrence at various depths would upset that line of argument. How a piece of wood could have ever made its solitary way to this distance *below* the surface, there to become charred, and afterward to be uncovered by the dauntless miner in his search for gold, is one of those mysteries which nature is continually presenting for our solution. Perhaps it might be explained by the theory that on the borders of the hypothetic spring or geyser grew plants and trees; and that rocks on the edges, caving and falling in, because undermined by the water, carried with them into the depths and buried there the plants which were by heat and pressure converted into charcoal.

I have mentioned only those among the most distinctive characteristics of the mine. Many other peculiarities are noticeable—in fact, scarcely any thing reminds me of the ordinary construction or arrangement of an ore-deposit. The mine is well worth the examination and study of the scientist and mining engineer.

DISCUSSION.

MR. R. WILSON CLARK, Leadville, Colo.: I wish to refer to one matter of interest—the charcoal that is found in the Bassick mine. It is found at great depths, and it is a true charcoal; there is no question about that. It is not a lignite, nor any thing else that looks like charcoal without being so. As a rule, around these pieces of charcoal are found the rich bodies of ore. As to the cores around which the shells of ore occur, they are angular, are they not, Dr. Munson?

DR. GEORGE C. MUNSON, Milford, Conn.: They are angular, but with the *sharp* edges worn off.

PRESIDENT ROTHWELL, New York City: The appearance of charcoal is somewhat deceptive in mines. For example, in the anthracite mines of Pennsylvania, we occasionally find between the layers of anthracite thin seams of a substance that exactly resembles common charcoal. In the anthracite region, this substance is called "mother of coal," for what reason I do not know. In physical structure, it is exactly like charcoal; traces of the fiber of the wood can be seen in it; and in every other respect, it is scarcely to be distinguished from charcoal.

Charcoal has also been found in the silver-bearing sandstones of Southern Utah. These sandstones are a simple sedimentary formation, and contain trunks of trees, some finely silicified, twenty, thirty, or even forty feet in length, with the bark and leaves plainly discernible. The trunks are found disseminated through the bed, just as they fell, or, in some cases, standing upright. I have also found there pieces of lignite, with the structure of the wood still quite evident and the bark quite perfect; even the fruit of the tree, the nuts, could be distinctly recognized. Other portions of the carbonaceous matter have almost the character of charcoal; the carbon has not become hard, nor taken on the form of lignite. The woody fiber of ordinary charcoal can be traced in it very clearly. Even in the silicified woods, the carbon has not entirely disappeared; it has something the character of coal-dirt. In the silver-bearing portions of these beds, the charcoal, the lignite, or the silicified wood, as the case may be, is impregnated with chlorides or sulphides of silver, and is, in many cases, quite rich. I have pieces that the assayer told me would run from forty to fifty dollars a ton. The charcoal of the Bassick mine I have never seen. This is the first time I ever heard of it. But it reminds me of the occurrence of carbonaceous matter in the form of charcoal and lignite, or in connection with silicified tree-trunks, at the Silver Reef mine, in Utah, though in structure the two deposits do not resemble each other in the least.

The Bassick ore has still another resemblance to ores found in Utah. At the carbonate mines in the Frisco District, not very far from the Horn-Silver mine, there is a fissure in the porphyry—a trachytic porphyry, I

believe, but at all events, clearly a porphyry. The fissure is well-defined, and cuts across the porphyry, at a long distance from the quartzite. It has apparently been enlarged by the decomposition of the walls. Pieces of the walls have fallen into the fissure, and, as is generally the case with eruptive rocks, the angles have peeled off and given the pieces a more or less spherical form. These little balls of porphyry, varying in size from quite small pebbles to boulders of considerable size, lie apparently loose in the fissure and are surrounded with concentric layers of galena and, in most cases, blende. These balls I have taken out of the mine at a considerable depth—150 or 200 feet, if I remember rightly. They were lying in the bottom of the mine, where the vein was wet, in a mass of decomposed porphyry, so soft and muddy that it could be scraped up by the hand. These balls of porphyry, surrounded by galena, were scattered quite loosely through the mass, though some of them were cemented together where the coating had become thick enough to unite balls that were near each other. The character of the ore, too, seems to be remarkably similar to that of the Bassick mine, notwithstanding the differences in the deposits. The concentric scales are small and consist mainly of galena. The fissure is straight and well defined, not at all resembling a geyser or an overflow of the character cited in the paper read to account for the peculiarities of the Bassick mine, and it is known to exist for a considerable distance. Openings have been made upon it at several points, and shafts have been sunk in it to a considerable depth; but the ore-body, of course, is not continuous.

MR. CHARLES A. ASHBURNER, Philadelphia: I would like to say a word with reference to the occurrence of charcoal in the anthracite regions of Pennsylvania. So far as I have seen, there are very few instances of its occurrence. The charcoal, or substance resembling charcoal, is generally found in the bony coal or slate-beds which lie between the purer seams of coal. It has occurred to me that probably the original vegetation from which this was formed was protected by the argillaceous material during the time the regular seam was changing from wood to coal, and that the charring of the wood, and its conversion into a substance resembling charcoal, were the result of the heat that accompanied the change.

MR. HENRY M. HOWE, Troy, N. Y.: When I was in Canada, I saw a large vertical deposit of galena, sixty or eighty feet across, that was about a tenth or an eighth part filled with fragments of country-rock. The country-rock was a rather fine-grained porphyry. The fragments met with in the deposit were apparently as sharp on the edges as when they were broken off from the walls. The spaces between them were filled with calcite, whose structure pointed to an aqueous origin, and coarsely crystalline galena. In sharpness of edge these fragments resembled those found in the Bassick mine; but they were so far apart as to make it impossible to believe that they ever rested on one another, and it is quite impossible that they were held in suspension in the solution from which the calcite was deposited. I would suggest, as a possible solution of the difficulty, that there may have been an eruption of igneous matter, the intrusive masses solidifying sufficiently rapidly to hold the sharp fragments in place, and being afterward replaced by the deposit of calcite.

DR. R. W. RAYMOND, New York City: In connection with the occurrence of charcoal at unusual depths, we are reminded of the comparative indestructibility of charcoal. Instead of being surprised that we occasionally find it under these circumstances, might we not be surprised that we do not find it oftener? When once inclosed in the rock, or in the rock-forming material, and protected from air and actual mechanical operations, there are very few agencies which would be likely to alter it in the least. In Oregon, I have seen, between the successive overflows of lava, very thin layers of mud, in which, with lava both below and above, the most delicate vegetable remains are found, including leaves, buds, and twigs of the finest texture. The power that lava has of preserving without injury is sometimes strikingly shown in such ways. In our blast-furnace practice, there is no more obstinate scaffold than one formed chiefly of coal. The reducing power of organic carbon (and hydrogen), when the conditions are favorable, may have been an important factor in ore-deposition. Some years ago, I went into an old adit (supposed to have been driven by the Spaniards) in the Cerrillos range, New Mexico. Lying in the bottom, and exposed to the mine-waters, was the wreck of an ancient pick-ax. The handle had apparently decayed and been washed away. At all events, no trace of it remained; but the eye-hole was filled with beautifully crystallized galena. I suppose this was a case of reduction from sulphate of lead through the agency of the decaying wood. No other part of the iron pick showed any deposition of galena.

MR. GEORGE W. MAYNARD, New York City: The occurrence of charcoal and lignites in mines is by no means rare. At a previous meeting of the Institute, I called the attention of the members to the occurrence of lignitic masses in the Permian sandstones of Russia, and I have also seen the same in Southern Utah. As to the indestructibility of charcoal, I recollect that very frequently pieces of unconsumed charcoal, that had been charged into a blast-furnace with the ores used in the manufacture of pig-iron, have been found imbedded in the cinder, after sinking forty or fifty feet through the furnace.

OFFICIAL STATEMENTS AND REPORTS

THE GOGEBIC IRON DISTRICT, MICHIGAN AND WISCONSIN.

Mr. J. M. Longyear has made a report to Mr. Theodore M. Davis, President of the Lake Superior Ship-Canal, Railway, and Iron Company, on the Gogebic Iron District, in which, but two years ago, the first work of exploring for iron ore was commenced. Five trails, varying in length from 20 to 35 miles, have been cut through the woods, to reach the new region, where as yet all the work has been done merely by hand-labor, unaided by even the rudest of horse-power machinery. The general course of the range is through townships 47, N. of ranges 46 and 47 W. in Michigan; and in Wisconsin, as far west as Moore's Camp, being a little north of east and south of west. In townships 47 N. of ranges 44 and 45 W., Michigan, it changes its course, as it is followed east, until it is a little south of east and north of west. It runs, therefore, from Wisconsin across the Montreal River, the boundary-line of Michigan, into that State, in a gentle curve, to near the Presque Isle River, pointing toward the southern extremity of the Gogebic Lake. Beginning at the western end, the first developments visited by Mr. Longyear were at Moore's Camp, Wisconsin, where a bed of considerably hydrated hematite 27 feet thick and 500 feet long had been developed without proving the hanging-wall. An average sample yielded 59·52 per cent of iron, 0·082 phosphorus, and 6·14 per cent of silica. Five miles east, A. L. Norrie has found a bed 24 feet thick and 660 feet long, which yields ore running 63·65 per cent of iron, 0·040 per cent of phosphorus, and 2·59 per cent of silica. Less than two miles in a northeasterly direction, the Cambria Iron and Steel Company has developed a six-foot and a four-foot vein dipping toward one another, an average analysis yielding 56·63 per cent of iron, 0·103 per cent of phosphorus, 5·07 per cent of manganese, and 2·18 per cent of silica. North of this point, a series of pits has shown the existence of considerable bodies of high-grade manganese ore. The largest show of ore, attributable, according to Mr. Longyear, to the fact that there has been the greatest amount of work done, is in section 16, 47,-46, where the Cambria Company has, by trenches and test-pits, developed a considerable quantity of ore, called the "South Vein of Section 16," and running metallic iron 55·49, phosphorus 0·070, and silica 2·68 per cent. Four hundred feet north of this vein, a forty-foot shaft shows ten feet of ore, called the "North Vein," averaging 65·10 per cent of iron, 0·042 of phosphorus, 0·92 of manganese, and 8·84 of silica. Nearly a thousand feet east of the west opening on the south vein of section 16, a trench has shown 19 feet of a hard manganiferous ore, probably a continuation of it, analyzing 54·25 per cent of iron, 8·40 per cent of manganese, 0·075 per cent of phosphorus, and 0·69 per cent of silica. In a probable extension of the North Vein in section 15, a number of openings show a considerable body of shipping ore averaging 62·10 per cent of iron, 0·062 per cent of phosphorus, and 3·94 per cent of silica, the openings on section 15 belonging to the Black River Mining Company. Two miles east, very encouraging prospecting has been done by Captain Hooper, of the Nonesuch mine, and similar results have attended work one mile east on the bank of the Sunday Lake outlet. Mr. Longyear, after alluding to the importance of the manganiferous ores, says:

"As to the quantity of ore in sight, it is impossible to make any accurate estimate, as so little sinking or deep work has been done; but as the formation is very regular and the walls of the ore-deposits, wherever found, are not folded or contorted in any way, but are as regular as the accompanying rocks, I have no doubt that the ore will be found as deep as the deposits of other districts. Taking the dimensions of the above-described deposits and reckoning the depth of the south vein on Sec. 16, 47,-46, at forty feet, and the depth of the others at twenty-five feet, I estimate there are now about three hundred thousand tons of ore in sight between the east line of 47,-46, Michigan, and Moore's Camp on Sec. 33, 46,-2E., Wisconsin, a distance of about fourteen miles.

"At the time, the now famous Menominee Iron District was opened to railroad facilities in 1877, only three deposits of shipping ore were known in the district, although a great amount of exploring had been done; but in the five years since the railroad was finished to the first three mines, there have been developed seventeen mines in the immediate vicinity of those three, to say nothing of the numerous mines to which the rail is now laid, but situated from twelve to forty miles from the mines to which the road was first built. I think it is safe to say that not one tenth of the ore in a new district is ever discovered by the necessarily imperfect work of the first explorers; and this being the case, it seems to me that the Gogebic Iron District is one of great promise, needing nothing but railroad facilities to enable it to take rank with the other great iron districts of the Northwest."

GENERAL MINING NEWS.

ARIZONA.

TOMBSTONE DISTRICT.

Recent dispatches state that no work is doing on the Sulphuret mine. Water, however, is pumped from it for the Girard mill.

The erection of steam hoisting-works on the Stonewall mine is contemplated.

Only one shift of men is working on the lower level of the Empire mine.

A break in the Contention machinery made necessary the reduction of the working force for a few days, but a full force is at work again to-day.

The Randolph drift is in over 100 feet, and shows a continuous ore-body.

A seven-foot vein of ore has been cut in the Blue Jacket mine. Assays yield $200 per ton.

Superintendent Gage, of the Grand Central, is now in San Francisco, purchasing pumps with which to work the mine below the 600 level.

Ten stamps of the Girard mill are still working on high-grade ore from the Way Up.

The ore in the Ingersoll mine is improving on the 300 level.

CALIFORNIA.

PLUMAS-EUREKA.—The accounts, for the half-year to the end of June, show a balance to the credit of profit and loss of £34,858 10s. 4d. The balance brought forward from the previous account was £41,182 14s., out of which the April dividend of £21,093 15s. was provided, and £5000 carried to the reserve fund, leaving a net amount of £15,088 19s. This, with £19,769 11s. 4d., the net profit on the half-year's operations, makes the credit balance of £34,858 10s. 4d. as stated above. The directors recommend that out of this balance a dividend of 2s. per share, free of income tax, amounting to £14,062 10s., be declared at the forthcoming general meeting. The reserve fund, with accrued interest, now stands at £11,393 18s. 9d. The quantity of ore produced during the half-year was 29,505 tons; the quantity milled was 29,645 tons. The average cost of mining was $3.10 per ton, and of milling $0.48, thus making the average working expenses $3.58 per ton. The average yield of the ore in free gold was $6.88 per ton. The sulphurets produced a total of $5045.26, but their treatment by roasting in the furnace has proved unsatisfactory, and they are "too rebellious to be successfully worked, unless by smelting, and they are not rich enough to warrant the erection of smelting-works. . . . At present, we are running them through the pans, and getting what gold can be obtained by this way of working, and are concentrating them for a future working or sale, whichever may be found the most profitable." The amount spent in prospecting the mine was $24,871.27, including $5881.21 on the Eureka tunnel, which resulted in 2468 feet of levels, winzes, etc.

SIERRA BUTTES.—The report of the directors, in London, states that the accounts of the Sierra Buttes mine, for the half-year to the end of June, show a balance to the credit of profit and loss of £14,994 5s. 1d. The balance from the previous account was £9902 15s. 9d., of which £2000 have been carried to the reserve fund, leaving £7902 15s. 9d. to be dealt with, which, with £7091 9s. 4d., the net profit of the half-year, make the above-mentioned credit balance of £14,994 5s. 1d. The directors recommend that out of this balance a dividend of 1s. per share, free of income tax, amounting to £6125, be declared at the

approaching general meeting, leaving £8869 5s. 1d. to be carried forward. The reserve fund, with accrued interest, now stands at £12,701 2s. 3d. The ore produced by the mine during the half-year was 19,437 tons, and the quantity milled 19,482 tons. The average mining cost was $4.10, and the milling 60 cents per ton, thus making the average working expenses $4.70 per ton. This is nearly 50 cents higher than in the preceding half-year, and was caused by the heavy outlay, $15,723.32, for making the ninth level, representing an average of 95 cents per ton on the output of the mine. The average yield of the ore in free gold was $6.47, and with that from the tailings, $7.06 per ton. The mine, as a whole, is looking very favorable, and gives great promise for a long and profitable future. The amount spent in opening up the mine, including the heavy outlay on the ninth level, was $33,780.73, and there is a necessity for a continuance of the large expenditure in prospecting, until the eighth and ninth levels have reached the main chutes of ore. In March, the Hanks mill was carried away by an avalanche, and some damage was also done to the Hitchcock mill, which was stopped in consequence for over a week. Up to that time, the Hanks mill had been supplied with ore from the upper levels of the mine, but the results had been so poor for some months that the stoppage of the mill was contemplated apart from the accident. In the upper part of the mine, all the stopes were stopped in the early part of the term in consequence of the Hanks mill (which treated the ore from the upper levels) being disabled by an avalanche. This portion of the property was scarcely profitable for several months prior to the disaster, therefore the company has sustained but very little, if any, loss by the accident, except the damage done to the mill. On July 19th, the Sardine Lake dam was carried away, and the water supply thereby considerably diminished. It is, however, considered that there is still sufficient in the other lakes to meet requirements, unless the winter rains are delayed to a later period than usual. The estimated cost of constructing a new dam is about $1500.

THE BODIE DISTRICT.

All the mines and mills now running in this district, says the Bodie *Free Press*, have made their preparations for the winter, in the way of getting in wood, timbers, etc. The Noonday mill is the last to be supplied, but it has an order with the railroad company for 6000 cords of wood, which will be put in as rapidly as possible. In a general way, it may be said that the mining companies and the town are in as good condition for a long, hard winter as they ever have been. The pulp-assays in the Bodie ran up last week to $101.88 per ton. Standard is still cross-cutting east on the 1000 and 700-foot levels, and the east cross-cut from the Lent shaft is in 274 feet. Red Cloud has again commenced sinking, and the shaft is 810 feet deep. The Tioga shaft is down 1077 feet. Oro is still working in rich ore from the winze below the 520 and 714 levels. The various mills are all running steadily.

CANADA.

PROVINCE OF NOVA SCOTIA.

The Montreal *Gazette* says that the lawsuit regarding the Salmon River gold mine, of Lockhart and others against Mott and others, is still before the courts. The defendants have recently, under an injunction, been permitted to do necessary work on the mine, to insure it against damage. Affidavits were filed October 20th stating that the defendants have disobeyed the order of the court, and worked the mine up to the present time. The judge in equity has granted an order now, stopping all work at the mine, placing the property in charge of the sheriff, and citing defendants to answer a charge of contempt of court.

ONTARIO.

A report states that a new development in hematite iron has just been made in the Wallbridge property, Madoc, on the lot immediately east across the Hastings road from the mine now worked by the Bethlehem Iron Company.

CENTRAL AMERICA.

HONDURAS.

Dr. W. G. K. Fritzgaertner, geologist and mineralogist to the government of the republic of Honduras, has supplied some interesting information as to the mineral resources of that country. He says: Native gold, in nuggets, scales, and dust, is found in numerous placer grounds, and in fissure-veins, and occurs often in the form of wire gold. It is also found in combination with ores of copper, iron, and tellurium. Platinum is found in numerous river-beds in scales and in grains. Silver is very abundant, and is found principally in the following forms: Native silver in plates and wires, chloride and bromide of silver, argentite, silver glance, ruby silver, argentiferous gray copper and galena. Tin is known to exist in paying quantities in two localities. Bismuth and antimony are also very frequently found. Copper has been discovered in many parts of the republic. The quality is excellent and the quantity inexhaustible, while the ore, as a rule, contains a very large percentage of silver and gold. Lead is found in large deposits and fissures. This metal is not worked for its intrinsic value, but only in case the ore contains gold and silver in paying quantities. Whole mountains of fine magnetic iron exist both near the coast and in the interior. The natives use clean and fine ore directly in their forges. The iron produced is of a very superior quality, and greatly resembles steel in all its characteristics. Coal is very abundant on the Atlantic coast, near the river Uloa, the quality being a semi-bituminous kind. As the quantity seems to be quite considerable, this mineral will in the near future become a valuable article of commerce along the Caribbean coast. Mining property is not taxed, and there is no duty on the exportation of ores and bullion; and the government is so anxious to encourage the industry that it will render all assistance in its power for the transportation of machinery, and will free it of importation duties.

COLORADO.

COLORADO COAL AND IRON COMPANY.—From a report by General Manager Danforth, it appears that for the first eight months of the year the production of coal was 254,379 tons, of coke 54,660 tons, of the iron and steel department 28,780 tons; the net earnings from sales during that period having been $253,496.78. For September, the production of coal was 44,936 tons, of coke 8405 tons, of pig-iron 2156 tons, and of steel rails 2202 tons. The nail-works are now turning out 150 kegs per day, the net earnings being at the rate of $50,000 per month from this department alone. Fifty new coke-ovens are building at Crested Butte.

BOULDER COUNTY.

Work will be commenced at a very early date on the tunnel which is to cut Gold Hill, running through to Left-Hand Creek, over two miles long. The engineers have completed their survey and every thing will be in readiness when the hydraulic drills and other machinery are put in place. The enterprise is chiefly due to the Hon. Ward Lamon, who has induced English capital to invest in Boulder County mines. The amount of capital supposed to be necessary to complete the work is $500,000, which is already subscribed.

NAPOLEON.—The Denver *Republican* says that a body of ore five inches wide has been struck at a depth of forty feet in the tunnel.

CLEAR CREEK COUNTY.

CLARISSA.—The Georgetown *Courier* announces the sale of a three-fourths interest in the Clarissa mine, at the head of Virginia Cañon.

GILPIN COUNTY.

From the *Register-Call* we condense the following:

CHAMPION.—This mine has been sold to the Kohinoor Mining Company, an English corporation, for $125,000.

PUBLIC SAMPLING-WORKS.—During the month of September, these works, at Black Hawk, sampled 900 tons of ore, the largest amount of any corresponding period for several years.

SARATOGA.—The work of grading for the building and plant of machinery over this mine, which recently came into the possession of the Saratoga Gold and Silver Mining Company, is progressing as rapidly as possible. The main shaft, which is now about 150 feet deep, will be used to drain the water from the mine.

UNITED GREGORY.—Sufficient mill-dirt is raised at present from the Gregory to keep eighty-five stamps in motion—fifty stamps of its own mill, twenty-five of the New York Company's mill, and ten of the Randolph stamp-mill. The New York mill last month crushed eighty-three and one half cords of mill-dirt from this mine—equal to 668 tons.

GUNNISON COUNTY.

The Silent Friend, Robinson, and Ferry mines, says the Pitkin *News*, have been sold for $200,000 to the Silent Friend Mining Company, recently formed, with officers as follows: E. H. Leaming, President and Treasurer; D. T. Sapp, Director and Legal Adviser; Dr. W. S. Cockrell, Secretary; H. O. Alden, Vice-President and Assistant Treasurer; A. J. Conway, Superintendent.

AUGUSTA.—This property, situated in Poverty Gulch, says the Leadville *Herald*, has been sold to ex-Governor Tabor for $25,000. The property is considered one of the most valuable mines in that locality, and the mineral consists of ruby silver, gray copper, and galena.

LAKE COUNTY.

From late Leadville exchanges we take the following:

ADLAIDE.—Work on this mine, the property of the Terrible Mining Company, continues on the ore-chute developed some months age, near the Ward shaft, and development and stoping continue to the southwest of the shaft, following up the hill, and directly along the center of the Adlaide lode. The ore-body varies from four inches to four feet in thickness. The ore continues quite siliceous, and besides containing a fair amount of lead and silver, carries considerable gold. A very promising body of lead ore has also been opened north of No. 1 Adlaide shaft, which seems to be extending to the northward, pitching seemingly under the Stray Horse Gulch. The mineral has a bluish tint, probably a sulphate of lead, and the ore-body averages several feet in thickness.

CHRYSOLITE.—The concentrating-mill is not yet completed, though a trial run will probably be made shortly. A five-stamp battery, 300-pound stamp, sizing-machine, percussion-tables, and a Frue vanner comprise the plant of this experimental establishment. The machinery is placed in the old Raymond, Sherman & McKay smelting building, adjoining Cummings & Finn's works.

ROSEVILLE-ALTA.—Mr. N. N. Robertson, the manager of this company's property, is vigorously pursuing work on the Roseville. After reducing the water below the level of the drift in which the ore was found last fall, diligent efforts were made to penetrate these workings to the ore-face. At the time the mineral was encountered a year ago, the water came in so rapidly that the miners had to abandon their workings, without fully timbering the drift, and the result was, that when opened a few weeks ago, it was found badly caved. The removal of the loose earth, thoroughly water-soaked, created a run, and it has since been found more expedient to start a new drift.

LA PLATA COUNTY.

CENTURY.—Dr. J. P. Wallace will ship, as stated in a dispatch to the Denver *Tribune*, $35,000 worth of gold ore from Durango to Argo for treatment. This ore has all been taken from the Century lode since last spring, and has been nearly all taken out in development without stoping.

SAGUACHE COUNTY.

According to the Denver *Republican*, the sale of the Revenue, Fifty-niner, and Aurora mines was completed October 19th, the consideration being $40,000. These three mines are situated opposite the well-known Exchequer group.

SUMMIT COUNTY.

ROBINSON.—The Leadville *Herald* states that the prospects of this mine are very favorable at present. The manager has removed all the difficulties which he found when he took charge of it a few months ago, and without asking for a dollar from the East, he has opened and worked the mine to a splendid condition, and has now a cash balance on hand of $33,000. During the present month, the tonnage of ore shipped from the mine up to the evening of the 18th has been 1340 tons, or about 85 tons per day.

DAKOTA.

CALEDONIA.—The superintendent reports for the week ended October 15th: Ore produced, 512 tons. Work has been suspended in the south drift in discovery vein, on account of using all our forces in getting the east stope ready for timbers. As soon as this work is completed, we shall run the entire mill.

FATHER DE SMET.—The superintendent reports: Herewith express company's receipts for bar 1156 78-100 ounces gold bullion, the result of run of mill for last half of September. . . . We can not put in a new engine, make all the necessary changes in shafting, pulleys, loss of time, etc., for less than $10,000. The present engine is doing as well to-day as at any time for the last three years. Taking all these facts into consideration, I do not recommend the purchase of a new engine until it is absolutely required. We received yesterday two new mortars for the mill from Chicago, which we are going to put in place of some of the badly worn ones. The north-end tunnel is in 800 feet, and we have the ledge and are driving in it now. The ore will not pay to mill. The different faces of ore in the mine are looking—and, as our clean-up indicates, doing—much better than for the past two months. Report for week ended October 8th shows: Ore extracted from first level, 950 tons; second level, 1000 tons. Ore milled, 1950 tons. North-end tunnel in 803 feet; west tramway level rise up thirty feet.

FLORENCE MILL.—Operations were resumed October 7th. The new machinery purchased is now on the road in, and will be set up immediately on its arrival, giving the mill double its present capacity.

GUSTIN BELT.—Work is progressing with every indication of success.

NOBLE GRAND.—The superintendent of the mine, in Twobit Gulch, states that the mill will be completed shortly. Developments in progress expose good bodies of ore.

GEORGIA.

The *Mountain Signal* says that all the mines in the vicinity of Dahlonega are doing as well as when last reported. The general outlook was never better. The monthly yield of bullion is constantly increasing. We now have in this district 350 stamps running day and night, and the probabilities are, that the next year will add as many more.

IDAHO.

CUSTER.—Two more stamps are to be added to the present twenty-stamp mill. The company is still at work on what is called the big slide, which will hold out a year or more. The ore lies on the side of a mountain, and is from a foot to several feet thick.

EMMA.—This mine has been bonded for $100,000.

SOLACE.—A recent shipment of thirty tons of ore netted $25,800.

VIENNA.—This company's twenty-stamp mill will be in operation on November 15th.

MAINE.

DEER ISLE, JR.—At the annual meeting, the following officers were elected for the ensuing year: Treasurer, W. C. G. Carney; Secretary, W. G. Soule; Directors, C. A. Parsons, W. C. G. Carney, A. H. Coe, W. O. Carney, and W. G. Webb. At a subsequent meeting of the directors, Mr. C. A. Parsons was elected president.

SULLIVAN.—The company's stamp-mill is running steadily, reducing ore of a good quality. The results obtained are said to be very satisfactory.

MEXICO.

We have received the following letter:

Mining matters progress here steadily, each week seeing a step gained. The Ward Mining Company, of Parral, has received machinery for twenty-five additional stamps, No. 1 size Stetefeldt furnace, etc., and is busy grading for its

erection at once. The furnaces and concentrating machinery of the Dry Mountain Company are nearly ready to run; and as Parral is essentially a camp of low-grade ores, it will prove a benefit to the mine-owners to have a market for their ores when concentrated, and will doubtless permit of the working of many mines now idle, because their ores are too poor to pay present smelting or milling charges.

Three new water-jacket furnaces have arrived for Mapimi, in the State of Durango; and at Indée, in that State, Colonel Bee's new smelter is reported about ready to start up.

At Carmen, the Sesteni Company is making fair progress: considerable machinery has arrived for it, part of which goes on at once by mules, and part will wait for the completion of the company's wagon-road. Great credit is due to the superintendent, Mr. Hart, for the skill displayed in securing a good grade for the road through a most difficult country.

At Guanauvi, matters progress slowly, the managers being apparently unequal to their undertaking, although their mines are yielding excellent ore. Several mines here, worked by private parties, are giving fair returns. La Sierra yields some $4000 a week to its owners; Guadalupe about the same, although occasionally it yields that sum daily.

At Metalitos, new life is infused into the famous Candelaria, which is without doubt the best mine in Durango. It has a bullion record of over $7,000,000. The lowest grade ore in the mine yields ninety-four ounces of silver per ton, and from that up to half its weight in silver. This mine is found in a mountain rising abruptly 3600 feet above the river. At the discovery-shaft, on the top of the mountain, grow pine trees; and at its base, at the river, grow coffee, oranges, bananas, sugar-cane, etc. The low-grade ores (100 ounces of silver and more) cost for mining and delivering into the mill about $5 a ton. The mill is run by water-power, and the cost of beneficiation does not exceed $10 a ton, or a total for mining, hauling, and milling of $15 a ton. It is estimated that there are in sight in this property, above tunnel level, more than sixty million dollars of ore. The extension to the north appears to be of little if any value; while that to the south, although but slightly developed, appears to be equally valuable with the Candelaria; and the same extension south shows a large vein of 100-ounce ore. To the north of the Candelaria some three miles or so, are found three valuable properties, namely, Zacatecas, carrying a five-foot vein of gray sulphuret of copper, averaging over 35 per cent copper and from 100 to 150 ounces of silver; Recompensa, with a six-foot vein of free-milling ore, averaging over 100 ounces of silver to the ton; and the Barranca, with a fifteen-foot vein of free-milling ore, yielding from seventy to eighty ounces of silver to the ton. To the southwest of Candelaria some three miles, lies the Santo Nino mine, yielding six feet of free-milling eighty-ounce ore.

The facilities for beneficiating these ores are excellent. The river affords ample power to run 500 stamps; cord-wood is plenty, costing $3.50 per cord delivered; miners' wages, 75 cents a day, and laborers 50 cents. The Candelaria mine and mill have recently changed hands, the Mexican owners having been bought out. The new proprietor is enlarging and repairing the mill to meet the imperative demands of the mine for greater milling capacity. Hitherto, the Mexican owners have despised as worthless all the low-grade 100-ounce ores, treating only those from 300 ounces and more. GEORGE WILSON.

VACA ORTIZ, STATE OF DURANGO,
MEXICO, Oct. 9, 1882.

MICHIGAN.

Under date of October 18th, we have the following interesting letter from an occasional correspondent at Marquette:

The present has been a very prosperous year for mining, both iron and copper, in the upper peninsula, the gross earnings of which will not be less than $30,000,000 for iron, and $11,000,000 for copper, or a grand total of $41,000,000 as the contribution of this not very large district to the earnings of the nation's industry. The total shipments of iron from all lake ports up to the 12th inst. are 2,394,880 tons, or an increase of 562,744 tons over the like period of last year. The output of a greater part of the mines presents a larger showing than the entire product of their last year's work. Notably, it is so with the Lake Superior, Florence, and Chapin mines, the last alone presenting its owners with more than 100,000 tons over the same period in 1881. The Republic, Cleveland, and Champion are a trifle behind their last year's record, although the Republic is still ahead of its product this time last year, having already turned its 205,000 tons. The entire output of the six companies thus far is in excess of 1,000,000 tons—an increase of 234,991 tons over their entire output for 1881. The record of the Norway and the Commonwealth, both Menominee mines, is also satisfactory, each having turned the scales of a hundred thousand tons, in which the former approximates to its entire output for 1881, and the latter exceeds its by some ten thousand tons. Many of the smaller enterprises, such as the Barnum and Mitchell, show the results of good management in a swelling of their annual totals. Others, like the Goodrich, which is under the management of Mr. Henry Davis, have stipulated contracts to fill, and are making calculations only to that end. The entire product for the year will probably cover 3,000,000 tons, which, as compared with the history of mining in this district, shows a steady and rapid progress since the panic of 1873 drove all our industries to the wall, and reduced the product of iron ore in the upper peninsula to almost 900,000 tons. A healthy demand, made steady and confident by a reasonable protection of the industry from foreign interference, will make the future of iron production in Michigan commensurate with the expectations of which the record of the past six years conveys more than a mere hint. The opening of mines in large and hitherto unexplored tracts places this prophecy within the domain of certainty. Whether there will be any considerable expansion in the shipments of pig-iron during the coming year, is, however, open to doubt, since the scarcity of proper coals has made the production of pig-iron problematical, as is shown in the reduction of the product from 80,000 tons in 1875 to 48,000 tons in 1880, with something of an increase for 1881; and, as far as we can ascertain, it will fall far below either during the present year.

While so many of the mines have been making such splendid returns, one historic figure, which has given a name to an entire range, and which has produced nearly 450,000 tons since it was first opened, in 1871-72, the old Saginaw, has pulled out its pumps, drawn down its blinds, and put out its shingle "to let." This mine, in its palmy days, produced the finest of specular ore, impregnated with a strong percentage of manganese, and therefore was always a favorite with furnace-owners; but the lodes became barren, or were crowded out altogether, until, with the exception of a few scrammers in the other pits, No. 2 shaft was the only one working at the opening of the present season. Acting under the advice of Mr. Samuel Mitchell, who is general superintendent also of the National, Mitchell, and Perkins mines, the company threw up its lease, and on the 14th inst. put out the fires under the pumping-engines. The mine had an eventful history, was a great step in the development of the industry on this range, and under the management of Mr. Mitchell coined money for its fortunate lessees. Its work is over. May it rest in peace! SPECULAR.

MONTANA.

GREGORY.—The superintendent writes: With the mines looking well, the five roasters completed, the increased capacity of the blast-furnace, plenty of wood, charcoal, lime-rock, and iron ore on hand and paid for, I can see no reason why we should not make an abundance of bullion for the next six months.

BEAVERHEAD COUNTY.

HECLA CONSOLIDATED.—We are informed by Mr. H. Knippenberg, general manager, that probably the new concentration-works, built by the Fort Scott Foundry and Machine Works, of Fort Scott, Kansas, will be running by the 1st of November. The gross output of the company is approximately $77,000 per month, and it is believed that when the concentrator is running, the amount can be doubled without drawing on the existing large reserves of first-class ore.

NEVADA.

The Navajo shaft will be completed to the 450 level this month. The drift from the Independence shaft to the central ledge on the 300 level is meeting streaks of rich ore.

EUREKA CONSOLIDATED.—At the annual meeting, held at San Francisco, October 16th, the following directors were elected: Frank Lecan, Thomas Bell, S. Heydenfelt, S. Hart, R. H. Rickard. The financial affairs are shown by the following figures:

RECEIPTS.	
From out-turn 3909 1514-2000 tons base bullion	$2,343,608.34
Settlement for damages	100,000.00
Sales powder, fuse, and caps	3,428.76
Sales candles, engine, wire cable, wood, cement, rock, feed, crucibles, etc., assaying and sampling ore	2,607.55
Superintendent's drafts outstanding	3,364.58
Cash on hand October 10th, 1881	144,857.31
Total receipts	$1,597,866.54
DISBURSEMENTS.	
Mine account	$521,693.24
Smelting account	319,651.66
Construction account	308,178.48
General expense account	25,594.38
Expense San Francisco account	10,037.35
Transfer agency, New York	3,225.45
Attorneys' fees, court costs	34,016.32
Freight, refining, etc	259,087.34
Superintendent's drafts	19,902.49
Dividend account	87,500.00
Profit and loss	.53
Cash on hand October 10th, 1882	8,979.30
Total	$1,597,866.54
RESOURCES.	
Cash on hand	$8,979.30
269 tons base bullion, approximate value	71,349.26
Supplies on hand	29,490.97
Charcoal	25,920.16
	$135,739.69
LIABILITIES.	
Superintendent's drafts outstanding	$3,364.58
Bills for hoisting-works, not due	39,000.00
	$93,375.11

NEW MEXICO.

The latest telegraph dispatches state that a prospecting party, under command of Clinton Rice, of El Paso, is reported to have discovered, on the 7th instant, an immense bed of platina and stream-tin in the northeast base of the Sierra Blanca. Specimens of platina weighing 500 pounds and of tin about 800 pounds have been forwarded to Denver to be tested.

ARIZONA COPPER COMPANY.—Mr. George J. Johnson, consulting engineer of this company, the purchasers of the Longfellow and Metcalfe mines at Clifton, has just returned from a visit to the mines in company with Mr. F. L. Underwood, President of the Merchants' National Bank, of Kansas City, the financial agent of the company. Arrangements have been made for a vigorous prosecution of work, and after a careful investigation of the different smelting-works, the choice falls upon the smelters built by Messrs. Rankin, Brayton & Co., of San Francisco and Chicago, as the best, the order being for a thirty-ton plant.

HAWKEYE GROUP.—Assessment-work has begun on the several claims of this group, and on one claim native silver and on another free gold have been struck. The bond on these properties having run out, the owners, in view of the recent strikes of gold, silver, and copper, refuse to re-bond for a longer time than sixty days, or for less than $350,000.

SOLITAIRE.—This mine, in Percha District, has been jumped by the Wilson Brothers, who had prior location, on the failure of Tabor and associates to pay them the sum of $25,000 agreed upon on compromise. The Wilsons have taken possession of the mine and stopped all work.

GRANT COUNTY.

SAN JOSE COPPER COMPANY.—Mr. George J. Johnson, of Boston, has ordered from Messrs. Rankin, Brayton & Co., of San Francisco and Chicago, a thirty-ton copper smelting plant for this company, to be erected at the mines at Santa Rita. Messrs. Pope, Cole & Co., of Baltimore, the well-known copper refiners, are interested in this property.

TEXAS.

Important discoveries of gold, silver, and copper-bearing leads in the Guadalupe, Hueco, and Carrizo ranges are reported by a prospecting party sent out from Austin.

UTAH.

SILVER REEF.

The Silver Reef *Miner* reports on the mines of that district as follows:

BARBEE & WALKER.—The superintendent states that the body of ore at the main shaft, which formerly was but twenty-two inches, has widened out to about five feet, and is good ore.

CHRISTY.—The prospects continue to be favorable.

STORMONT.—Ore-shipments to the mill are kept up regularly.

THE COEFFICIENT OF FRICTION OF HOISTING-ROPES.—A series of 149 experiments, made in the Aix-la-Chapelle District, Germany, showed that the coefficient of friction of wire rope on a turned cast-iron sheave averaged 0·221.

FINANCIAL.

Gold and Silver Stocks.

NEW YORK, Friday Evening, Oct. 27.

The amount of business done at the Mining Exchanges has not been so large as last week, but the dealings are still confined to Robinson, Decatur, South Pacific, and the like. The manipulators of Robinson continue to be very active with their stock, but it seems to be a very hard matter to keep the price up. It hardly reached $1.80, its highest price during the week, when it was forced back to $1.60, its lowest price. Decatur is another stock that is strongly manipulated, and its price has been forced up to a high figure. The Comstock shares were to-day quite strong, following the lead of the San Francisco market. The sales of mining shares at all the Exchanges aggregate 554,686 shares, as against 582,333 last week.

The Comstock shares have been quiet and firm. California was dealt in to the extent of 3600 shares, at 26@34c. Consolidated Virginia has been quiet and strong, selling at 65@81c. Sierra sold at $5@$6.25, with a business of 355 shares. Union Consolidated had a fair business at firm prices, selling at $4@$4.50. Mexican was quiet and strong at $3.50@$4.25. Ophir was very quiet at about steady prices, selling at $3@$2.88. Yellow Jacket sold at $1.40. Best & Belcher was quiet and firm, selling at $5.38@

DIVIDEND-PAYING MINES.

NAME AND LOCATION OF COMPANY.	SHARES. No. in 1000's	SHARES. Par Value.	ASSESSMENTS. Lev'd to date in 1000's.	ASSESSMENTS. Date and amount per share of last.	DIVIDENDS. Total paid to date in 1000's.	DIVIDENDS. Date and amount per share.	HIGHEST AND LOWEST PRICES PER SHARE AT WHICH SALES WERE MADE. Oct. 21. H.	Oct. 21. L.	Oct 23. H.	Oct 23. L.	Oct. 24. H.	Oct. 24. L.	Oct. 25. H.	Oct. 25. L.	Oct. 26. H.	Oct. 26. L.	Oct. 27. H.	Oct. 27. L.
Alice, Mon..	400	25	*	....	400	De 81 10	.....	.....	.....	.....	2.15	.....	2.15	.....	.....	.....	2.15	.....
Amie Con., Co....	500	10	*	....	305	My 80 10	.14	.....	.14	.13	.15	.13	.12	.09	.11	.10	.10	.....
Atlantic, Mich....	40	25		....	140	Fe 82 2 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Argenta, Ne.....	100	100	200	Se 82 25	40	Fe 80 20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bar & Walker, Ut.	100	10	*	....	60	No 80 10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bassick, Co.....	100	100	*	....	25	Fe 80 25	.....	.....	.....	.....	.....	.....	5.75	.....	.....	.....	.....	.....
Belle Isle, Ne.....	100	100	65	My 82 10	300	De 79 25	.....	.....	.....	.....	.....	.....	.....	.....	.35	.....	.....	.....
Black Bear, Ca...	90	100	15	Se 79 50	889	Se 82 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Belcher, Ne.....	104	100	2562	Se 82 25	16397	Ap 76 1 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bodie Cons., Ca...	100	100	125	De 81 50	1275	Oc 82 25	.....	.....	4.00	.....	4.50	4 20	.....	.....	3 75	.....	3.50	.....
Bos'n & Mon, Mon.	200	10	...	....	200	No 82 05	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Breece, Co.....	200	25	*	....	2	Fe 80 1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bulwer, Ca.....	100	100	30	De 77 50	110	Oc 82 10	1.20	.....	.....	.....	.....	.....	1.20	.....	1.20	.....	.....	.....
California, Ne....	540	100	539	Se 82 26	31320	De 79 50	.28	.....	.26	.....	.....	.....	.29	.28	.27	.26	.34	.32
Cal. & Hecla, Mch.	100	25	....	....	22350	No 82 5 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Caribou Con., Co.	100	10	*	....	50	Mr 80 10	.....	.....	.....	.....	.....	.....	.80	.....	.....	.....	.....	.....
Carolina Con., N.C.	100	2	....	....	6	Se 82 02	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Castle Creek, Id..	100	1	....	....	15	Oc 82 03	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Catalpa, Co.....	300	10	*	....	180	My 81 20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chrysolite, Co....	200	50	*	....	1600	De 81 50	.....	.....	1.55	.....	1 75	.....	1.55	.....	1.55	.....	1.50	1.45
Climax, Co.....	200	10	*	....	180	Au 80 30	.06	.04	.05	.....	.04	.....	.05	.....	.05	.....	.....	.....
Cons. G. Mg., Ga.	100	5	*	....	64	Au 82 04	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cons. Va., Ne.....	540	100	897	Au 82 30	42330	Au 81 50	.67	.65	.65	.....	.67	.....	.66	.65	.70	.66	.81	.74
Copper Queen, Ar.	250	10	*	....	500	Se 82 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Crown Point, Ne.	100	100	2673	Fe 82 25	11588	Ja 75 2 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
D'dw'd-Terra, Dk	200	25	*	....	835	Oc 82 15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dunkin, Co.....	200	25	*	....	200	Ju 81 7½	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Eureka Cons., Ne.	50	100	100	My 76 1 00	‡	Jy 82 25	11.38	.....	10.00	.....	.....	.....	.....	.....	.....	.....	.....	.....
Evening Star, Co	50	10	*	....	1225	Oc 82 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Excelsior, Ca.....	100	100	3 00	Ja 82 1 00	975	Oc 81 25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fa. de Smet, Dk..	100	100	....	....	510	No 82 20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Findley, Ga.....	200	1	*	....	8	My 79 1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Freeland, Co....	200	25	*	....	50	My 80 25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Glass-Pend., Co..	250	20	*	....	25	My 81 10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gold Stripe, Ca..	150	10	*	....	76	Jy 81 15	.....	.....	.14	.....	.....	.....	.....	.....	.15	.....	.15	.....
G'ld & Curry, Ne..	108	100	3473	Se 82 50	3826	Oc 70 $10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grand Prize, Ne..	100	100	595	Se 82 25	450	Se 80 25	.50	.....	.....	.....	.....	.....	.39	.....	.....	.....	.....	.....
Great Eastern, Dk	300	1	*	....	16	Jy 80 01	.....	.....	.03	.....	.....	.....	.03	.....	.03	.....	.03	.....
Gr. Mountain, Ca.	125	10	*	....	212	No 81 7½	.65	.....	.65	.55	.55	.53	.52	.51	.51	.....	.51	.....
Hale & Nor., Ne..	112	100	4006	Se 82 50	1598	Ap 71 5 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hall-And's'n, N.S.	150	1	.....	....	7	Ja 82 05	..	...	2.10	.....	2.15	.....	2.65	2.15	2.80	2.00	.....	.....
Hecla Con., Mon.	30	50	.....	....	342	Ap 82 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hibernia, Co.....	300	25	*	....	180	Jy 81 40	.....	.....	.....	.....	.....	.....	.....	.....	.02	.....	.04	.....
Homestake, Dk..	100	100	200	Ap 78 1 00	1092	Oc 82 40	.....	.....	.....	.....	.....	.....	.....	.....	(7½	.....	.....	.....
Horn-Silver, Ut..	400	25	*	....	1700	No 82 75	8.75	8.50	8.88	.....	8.50	8.25	8.63	8.38	8.00	.....	.....	.....
Hukill, Co.....	200	5	*	....	210	De 78 10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.14	.....
Indep., Ne	100	100	185	Fe 82 15	225	Se 79 05	1.25	.....	1.25	1.20	1.15	.....	1.15	1.00	1.00	.....	1.00	.93
In. Queen, Ne....	125	2	12	No 79 10	355	Se 82 02	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Inyo, Ca.....	100	5	*	....	45	Ap 82 05	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Iron Silver, Co...	500	20	*	....	800	Oc 82 20	2.30	.....	2.30	2.00	2.35	2.30	2.35	2.30	.....	.....	.....	.....
Jocuistita, Mex..	100	100	....	....	550	Au 82 1 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
La Plata, Co.....	200	10	*	....	610	Se 82 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Leadville C., Co..	400	10	*	....	230	Au 82 05	.....	.....	.55	.....	.60	.....	.63	.61	.....	.....	.60	.....
Leeds, Ut.....	60	100	87	Ju 82 50	78	Oc 78 15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Little Chief, Co..	200	50	*	....	700	Au 80 50	.52	.50	.51	.....	.....	.....	.51	.50	.51	.50	.50	.....
Little Pitts., Co..	200	100	*	....	1350	Mr 80 50	.....	.....	.....	.....	.....	.....	1.00	.....	1.00	.....	1.00	.....
Martin White, Ne	100	100	950	Se 82 25	90	Jy 79 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Moose, Co.....	200	10	4	....	550	Mr 78 25	.05	.....	.....	.....	.....	.....	.....	.....	.....	.....	.05	.....
Morning Star, Co.	100	10	....	....	515	Oc 82 25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Navajo, Ne.....	100	100	235	Mr 82 20	50	Oc 82 25	.....	.....	5.50	.....	.....	.....	.....	.....	.....	.....	.....	.....
N. Y. & Colo., Col.	50	20	....	....	25	Jy 79 10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
N'h'n Belle, Ne...	50	100	....	....	2275	Oc 82 50	.....	.....	.....	.....	.....	.....	11.50	.....	11.50	.....	11 50	.....
N. Belle Isle, Ne..	100	100	55	Se 82 15	45	Se 82 15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ontario, Ut.....	150	100	....	....	4700	Oc 82 50	37.00	.....	.....	.....	.....	.....	.....	.....	36.00	.....	.....	.....
Ophir, Ne.....	100	100	3395	Jy 82 1 00	1595	Jy 82 1 00	.....	.....	.....	.....	3.00	.....	.....	.....	2 88	.....	.....	.....
Osceola, Mich....	50	25	....	....	810	Se 82 1 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Plumas, Ca.....	100	10	*	....	151	Jy 79 8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Quicks. Pref., Ca.	43	100	.....	....	654	Ju 82 6 00	.....	.....	.....	.....	.....	.....	.....	.....	41.50	.....	.....	.....
" Com., Ca.	57	100	.....	....	151	Ju 82 40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Quincy, Mich....	40	25	....	....	320	Au 82 5 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rising Sun, Ca...	150	5	*	....	52	My 81 7½	.06	.....	.06	.....	.07	.....	.06	.....	.06	.04	.05	.....
Robinson C., Co..	200	50	*	....	575	No 81 50	1.75	1.60	1.80	1.60	1.80	1.55	1.75	1.65	1.80	1.70	1.80	1.60
Robt. E. Lee, Co.	500	500	....	....	50	Jy 81 10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Savage, Ne.....	112	100	5692	Se 82 25	4460	Ju 69 3 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sierra Nev., Ne...	100	100	5050	Se 82 1 00	102	Ja 71 1 00	.....	.....	.....	.....	.....	.....	.....	.....	5.00	.....	6.25	5.88
Silver King, Ar...	100	100	.....	....	1175	Oc 82 25	13.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Silver King, Co...	500	2	.....	....	50	Au 81 10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Socorro, N. Mex..	2.5	100	...	....	4	Mr 82 ¾	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Spr'g Valley, Ca..	200	1	*	....	50	Ja 81 25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Standard, Ca.....	100	100	.....	....	3950	Oc 82 25	4.90	4.50	5.25	.....	5.25	.....	.....	.....	4.75	.....	5.75	.....
Starr-Grove, Ne..	200	10	*	....	160	Ju 81 10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stormont, Ut.....	200	1	*	....	155	No 81 05	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Joseph, Mo....	100	10	*	....	370	Se 82 20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tip Top, Ar.....	100	100	170	Mr 80 50	100	No 81 20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tombstone, Ar....	500	25	*	....	1350	Ap 82 10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vizina, Ar.....	200	25	.....	....	140	Mr 82 10	1.35	1.30	1.35	.....	1.40	.....	.....	.....	1.40	.....	.....	.....
Yellow Jacket...	120	100	5358	Fe 82 1 00	2184	Au 71 2 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.40	.....
.....	.....	.....	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

* Non-assessable. † The Deadwood has previously paid $275,000 in eleven dividends, and the Terra $75,000. ‡ 18175.

SALES.—Alice, 300; Amie Consolidated, 16,500; Bassick, 100; Belle Isle, 200; Bodie Consolidated, 700; Bulwer, 300; California, 3600; Caribou Consolidated, 100; Chrysolite, 3600; Climax, 12,300; Consolidated Virginia, 8000; Eureka Consolidated, 200; Gold Stripe, 1000; Grand Prize, 175; Great Eastern, 5500; Green Mountain, 9100; Hall-Anderson, 9900; Hibernia, 3100; Homestake, 100; Horn-Silver, 1300; Hukill, 100; Independence, 5300; Iron Silver, 6834; Leadville, 900; Little Chief, 4300; Little Pittsburg, 500; Moose, 600; Navajo, 200; Northern Belle, 500; Ontario, 60; Ophir, 135; Quicksilver, preferred, 100; Rising Sun, 20,300; Robinson Consolidated, 127,500; Sierra Nevada, 355; Silver King, 40; Standard, 980; Vizina, 500; Yellow Jacket, 200. Dividend shares sold, 245,569.

$6. Sutro Tunnel had an active business at steady prices, selling at 28@38@31c.

The Leadville stocks were moderately active at weak prices. Amie sold at 15@9@10c., with a business of 16,500 shares. Chrysolite was quiet and a little weak, selling at $1.55@$1.45. Hibernia sold at 2@4c. Iron Silver showed some strength under a fair business, and sold at $2@$2.35. Leadville was quiet and strong at 55@63@60c. Little Chief had a quiet business at steady prices, selling at 52@50c. Little Pittsburg sold to the extent of 500 shares at $1. Climax was very active at weak prices; it sold at 6@4@5c.

The Bodie stocks were very quiet. Bodie sold at $4.50@$3.50, with transactions of 700 shares. Standard was quiet at strong prices, selling at $4.50@$4.75@$5.75. Bulwer sold at $1.20.

The Tuscarora stocks were quiet and weak. Grand Prize was quiet and weak, selling at 50@39c. Tuscarora sold at 9@8c., with a business of 8300 shares. Independence was quiet and weak, selling from $1.25@98c., with transactions of 5300 shares. Navajo was very quiet at $5.50. Belle Isle sold at 35c.

In the miscellaneous list, the Green Mountain stocks have been very active, but continue weak. Gold Stripe sold at 14@15c. Green Mountain has been active and weak, selling at 65@51c. with a business of 9100 shares. Rising Sun has been very active at weak prices, selling at 7@5c. Cherokee has been quiet and steady at 21@19@20c. Hall-Anderson has been active at irregular prices; it sold from $2.10@$2.80@$2. The manipulators of Robinson Consolidated continue to do a very large business in that stock, the sales this week aggregating 127,500 shares. The price has been very irregular—strong one day and weak the next; it sold from $1.60@$1.80@$1.60, closing at $1.65 to-day. Vizina has been steady at $1.30@$1.40. Alta-Montana has had a fair business at stronger prices, selling at 10@23@20c. Bear Creek was steady at 26@25c. Bradshaw has been quiet and irregular, selling at 30@40@35c. Central Arizona has fallen off from the strong prices of last week, and sold from 66@55c., with a business of 800 shares. Decatur has been quite active at strong prices; it sold from 61@75@73c. Oriental & Miller has been very irregular under an active business, and has sold from 15@10@13c. Silver Cliff has been active and strong, the sales aggregating 14,700 shares at 81@90@86c. South Hite, new, has had a fair business at steady prices, selling at 30@32c. South Pacific has been active and steady at 14@13c. The State Line stocks have had a fair business, but at weak prices; Nos. 1 and 4 sold at 6@5c. and Nos. 2 and 3 from 17@12c. Taylor-Plumas has been active and strong at 13@16@15c.

Our attention has been called to the Consolidated Bodie Gold and Silver Mining Company, of Arizona, the stock of which is selling in this city. We are informed by a correspondent that the New York management is probably deceived by the Western representatives, the grade of the ore not being as high as they claim. It is stated that there is a good deal of low-grade ore in the mine.

The stock of the Yale Mountain Mining Company, a Philadelphia enterprise, has been listed at the New York Exchange.

There are rumors that the works of the Pima Copper Company, of Pelton, Arizona, are to be closed down.

The Lake Valley stocks have recovered from the break of last week, which it is now learned is due to the fact that Mr. George D. Roberts has sold out to the Philadelphia parties, his friends disposing of their stock on learning of it. The Philadelphia interest, it is understood, has now stepped in to keep the stock up. Messrs. Watson & Gibson, of this city, quote: Sierra Grande, $4.35@$5; Sierra Bella, $1.15@$1.25; and Sierra Apache, 85c.

DIVIDENDS.

Dividends paid by mining companies during the month of October, and from January 1st, 1882.

NAME OF COMPANY.	Location of mines.	Paid during month of October.	Since January 1, 1882.
Atlantic, c.....	Mich.....	.....	$80,000
Black Bear Quartz, G.....	Cal.....	.....	31,500
Bodie, G.....	"	$25,000	75,000
Boston & Montana, G.....	Mont....	10,000	90,000
Bristol, s.....	Nev.....	.....	14,612
Bulwer Consolidated, s....	Cal.....	10,000	100,000
Calumet & Hecla, c.....	Mich.....	.....	1,500,000
Carolina Queen.....	N. C.....	.....	6,000
Castle Creek, G.....	Idaho....	3,000	12,000
Central, c.....	Mich.....	.....	50,000
Christy, s. L.....	Utah.....	6,000	12,000
Con. Gold M. Co. of Ga., G.	Ga.....	4,000	40,000
Contention, s.....	Ariz.....	62,500	562,500
Copper Queen, c.....	"	125,000	375,000
Deadwood-Terra, G.....	Dak.....	30,000	300,000
Eureka Con., G. S. L.....	Nev.....	.....	87,500
Evening Star, s. L.....	Colo.....	25,000	700,000
Exchange Silver, s.....	Nev.....	.....	3,000
Father de Smet, G.....	Dak.....	.....	150,000
Fresno Enterprise, G.....	Cal.....	.....	10,000
Gem, N.....	Colo.....	2,500	6,250
Glen.....	"	1,000	3,000
Grand Central, s.....	Ariz.....	.....	350,000
Granite Silver, s.....	Colo.....	1,000	1,000
Great Western, Q.....	Cal.....	12,500	12,500
Hall-Anderson, G.....	N. S.....	.....	7,500
Hecla Consolidated, s.....	Mont.....	.....	90,000
Homestake, G.....	Dak.....	50,000	380,000
Hope, s.....	Mont.....	22,600	56,500
Horn-Silver, s. L.....	Utah.....	.....	900,000
Idaho, G.....	Cal.....	23,250	217,000
Indian Queen, s.....	Nev.....	.....	48,750
Inyo Consolidated, G.....	Cal.....	.....	5,000
Iron Silver, s. L.....	Colo.....	100,000	300,000
Jocuistita, s.....	Mex.....	.....	450,000
La Plata, s. L.....	Colo.....	60,000	195,000
Leadville Consolidated, s. L.	"	.....	60,000
Marguerite, G.....	Cal.....	6,250	19,750
Morning Star, s. L.....	Colo.....	25,000	250,000
Napa Consolidated, Q.....	Cal.....	10,000	60,000
Navajo, s. G.....	Nev.....	25,000	25,000
New York Hill, G.....	"	.....	10,000
Northern Belle, s.....	Nev.....	25,000	17,000
Ontario, s.....	Utah.....	75,000	750,000
Osceola, c.....	Mich.....	50,000	200,000
Pleasant Valley, G.....	Cal.....	5,000	20,000
Plumas-Eureka, G.....	"	.....	30,469
Quincy, c.....	Mich.....	.....	520,000
Renfrew Consolidated, G...	N. S.....	.....	3,000
Richmond Consolidated, s.L	Nev.....	.....	202,500
Robinson Bar, G.....	Idaho....	3,000	3,000
San Francisco Copper, c....	Cal.....	.....	15,000
Sierra Buttes, G.....	"	.....	8,438
Silver King, s.....	Ariz.....	25,000	250,000
Socorro.....	New Mex.	.....	4,375
South Galena.....	Utah.....	.....	5,000
Smuggler.....	Colo.....	.....	10,800
Standard Consolidated, G..	Cal.....	25,000	650,000
St. Joseph, L.....	Mo.....	.....	60,000
Tombstone, G. S.....	Ariz.....	.....	200,000
Vizina Consolidated, s.....	"	.....	100,000
Warrior's Mark.....	Colo.....	.....	15,000
Total amount of dividends paid.....		$847,600	10,868,344

G., gold. S., silver. C., copper. L., lead. N., nickel. Q., quicksilver.

The Calumet & Hecla Mining Company, of Michi-

NON-DIVIDEND PAYING MINES.

NAME AND LOCATION OF COMPANY.		NUMBER OF SHARES.	Par.	ASSESSMENTS. Total levied to date.	ASSESSMENTS. Date and amount of last.		HIGHEST AND LOWEST PRICES PER SHARE AT WHICH SALES WERE MADE. Oct. 21. H.	Oct. 21. L.	Oct. 23. H.	Oct. 23. L.	Oct. 24. H.	Oct. 24. L.	Oct. 25. H.	Oct. 25. L.	Oct. 26. H.	Oct. 26. L.	Oct. 27. H.	Oct. 27. L.
Advance									30c	29c	30c	29c	30c					
Albion, s. L	Nev.	150,000	100	397,500	Jun. 82	25												
Allouez	Mich																	
Alpha	Nev.			420,000	Mar. 82	50												
Alta	Nev.	100,800	100	1,641,600	May 82	50												
Alta-Montana, G	Mon.	500 000	10	*			15c	13c	13c	10c	14c		19c		23c	18c	20c	18c
Am. Flag, s	Colo	125,000	10	300,000	Jun. 77	25			9c									
Barcelona, G	Nev	200,000	25	*														
Battle Creek																		
Bear Creek	Cal.	300,000	1				26c		26c	25c	26c		23c		26c	25c	25c	
Beaucc																		
Bechtel Con., G	Cal.	100,000	100	165,000	Dec. 81	25												
Best & Belcher, G. S	Nev.	100,800	100	1,295,390	Jul. 82	50	5.38		5.75		5.50				6.00		6.00	
Big Pittsburg, S. L	Colo	200,000	100	*			20c											
Black Jack, G	Cal.	100,000	2½															
Bonanza Chief	Mon	1,000,000	1	*														
Bondholder	Colo	200,000	25															
Boston Con., G	Cal.	100,000	100	70,000	May 82	20												
Boulder Con																		
Bradshaw, S	Ariz	225,000	10						31c	30c	33c				40c	33c	35c	
Buckeye	Colo	100,000	5	*									28c		28c			
" pref							28c	27c	27c									
Bull-Domingo, S L	Colo	200,000	50	*														
Bullion, G. S	Nev.	100,000	100	3,747,000	Oct. 82	50												
Bye and Bye	Ariz	100,000	10	*														
Calaveras, G	Cal.	500,000	1	*			5c				5c		5c		5c		6c	
C'lav'r's W.&M.Co	Cal.																	
Cal., B. H., G	Dak.	100,000	100	480,000	Au. 82	15												
Carbonate Hill, S L	Colo	200,000	10				84c		84c	82c								
Catskill, S	Nev.	300,000	5															
Central Ariz'na, S	Ariz	100,000	100				65c						55c		55c		55c	
Chapparal	Cal.						3c				3c	2c			2c		2c	
Cherokee, G	Cal.	150,000	10				21c	20c	20c		19c				20c		20c	
Chollar					Sep. 82	50												
Clarence	Can.																	
Colorado Cent'l, S	Colo	300,000	10															
Col'mb'a Con., G. S	Nev.	100,000	50															
Cons. Imp'r'l, G. S	Nev.	500,000	100	1,425,000	Jan. 82	10											8c	
Con. Pacific, G	Cal.	60,000	100	141,000	Au. 82	25												
Crescent, S L	Colo	300,000	10	*														
Crowell, G	N. C.	50 000	1				5c		5c		5c		5c		5c			
Dahlonega, G	Ga.	250,000	1	*														
Dardanelles, G	Cal.	100,000	10															
Decatur							68c	63c	65c	61c	66c	63c	67c	63c	75c	65c	75c	70c
Dunderberg, S	Colo	150,000	10	*							15c						10c	
Durango, G	Dak.	500,000	1	*			8c				9c		9c		9c	8c	9c	
Eastern Oregon																		
Empire, S	Ut'h	100,000	100										8c					
Enterprise	Colo						62c		62c	61c	62c		62c		62c		61c	58c
Exchequer	Nev.	100,000	100	630,000	Jan. 82	25												
Globe Copper	Ariz.						3c		3c		4c	3c	4c		3c		4c	
Gold Placer, G	Colo	200,000	25	*														
Goodshaw, G	Cal.	100,000	100	200,000	Oct. 82	10												
Granville, G	N. C.	800,000	1	*														
Harshaw, S	Ariz	100,000	100															
Head Center, S	Ariz	100,000	100	160,000	May 82	20												
Hortense, S	Colo	260,000	10								15c							
Index	Cal.																	
Julia, G S	Nev.	110,000	100	1,391,000	Jan. 82	20												
Kossuth, G S	Nev.	108,000	100	421,200	Aug. 77	15												
Lacrosse, G	Colo	100,000	10	*									13c		13c			
Leviathan, S	Nev	100,000	100	380,000	Sep. 82	25												
Lucerne, S	Colo	500,000	10	*														
Mariposa Pref., G	Cal.	50,000	100	1,687,500	Dec. 81													
" Com., G	Cal.	100,000	100	1,950,000	Feb. 82													
May Belle, G	Cal.	100,000	100	81,000	Dec. 81	20												
Mayflower, S	Colo	100,000	100	*														
Mexican, G. S	Nev.	100,800	100	2,146,600	Oct. 82	81			5.63		3.75	3.50	3.75	3.50	3.63		4.25	
Michoacan Synd	Mex.																	
Miner Boy, G S L	Colo	500,000	10	*			4c		4c				3c				4c	
Miller	Nev.	200,000	25															
Mono, G	Cal.	50,000	100	512,500	Sep. 82	25												
Moose Silver, S	Colo	300,000	10															
Nevada Syndi																		
North Standard, G	Cal.	100,000	100	20,000	Nov. 81	10												
N. Horn-Silv'r, S L	Utah	400,000																
Noonday	Cal.	60,000	10	148,000	Sep. 82	25									15c			
Old Dominion, C	Ariz	200,000	100	*														
Oriental	Nev.	200,000	10															
Ori'nt'l & Miller, S	Nev.	400,000	25				15c		14c	13c	14c	13c	13c	12c	12c	10c	13c	11c
Overman, G S	Nev.	115,200	25	3,604,700	May 82	25												
Potosi	Nev.	112,000	100	476,000	Sep. 82	25												
Quartz Creek			100				10c		10c				10c					
Rappahannock, G	Va.	250,000		*														
Red Elephant, S	Colo	500,000	1	*														
Retort			10															
San Pedro, G S L	N. M	400,000																
Silver Cliff, S	Colo	200,000	25	*			85c	81c	84c		88c	85c	90c	85c	89c	85c	89c	84c
Silver Islet	Can.		50															
Sonora Con	Mex.																	
South Bodie, G	Cal.	100,000		100,000	Mar. 82	15												
South Bulwer, G	Cal.	100,000	100	195,000	May 81	25												
South Hite	Cal.	100,000	100		May 82	10	31c		32c	30c	30c		32c		32c		12c	
South Pacific	Cal.		5				14c	13c	13c		14c		14c		14c	13c	14c	13c
State Line No. 1, S	Nev.	200,000	1															
" No. 2, S	Nev.	200,000	25															
" No. 3, S	Nev.	200,000	25															
" No. 4, S	Nev.	200,000	25															
" Nos. 1 & 4, S	Nev.		25				6c		6c		6c	5c	6c	5c				
" Nos. 2 & 3, S	Nev.						17c		15c	13c	14c	13c	13c	12c	12c		12c	
Sutro Tunnel	Nev.	2,000,000		*			29c		30c	28c	29c		29c		38c	28c	31c	30c
Taylor-Plumas			10				14c	13c	14c	13c	15c	13c	15c		16c		15c	
Tioga, G	Cal.	100,000		285,000	Oct. 82	10												
Tuscarora, S	Nev.	100,000	100	110,000	Oct. 81	15			8c		9c		9c	8c	8c		8c	
Unadilla, S	Colo	500,000	100	*			5c		5c									
Union Cons., G. S	Nev.	100,000	1	1,460,000	Oct. 82	81			4.25	4.00	4.50	4.05	4.50					
Utah	Nev.	20,000	100	1,340,000	Oct. 82	81												
Vandewater, S	Nev.	200,000	100	*									19c		19c			
Washington, S	Ariz.	200,000	10															
Whalen Copper	Nev.	100,000	25				21.00		21.25	21.00	21.75	21½			21.75		21.75	
Wide West																		
Willshire, G	Cal.	50,000	5	*														

* Non-assessable.

SALES.—Advance, 1500; Alta-Montana, 8312; Barcelona, 500; Bear Creek, 2500; Best & Belcher, 570; Big Pittsburg, 100; Bradshaw, 6000; Buckeye, preferred, 2600; Calaveras, 5500; Carbonate Hill, 600; Central Arizona, 800; Chapparal, 30,900; Cherokee, 3500; Consolidated Imperial, 100; Crowell, 6300; Decatur, 29,500; Dunderberg, 200; Durango, 2800; Empire, 100; Enterprise, 9300; Globe Copper, 7500; Hortense, 300; Lacrosse, 700; Mexican, 885; Miner Boy, 9700; Noonday, 90; Oriental & Miller, 15,200; Quartz Creek, 2800; Silver Cliff, 14,700; South Hite, new, 9700; South Pacific, 22,500; State Line Nos. 1 & 4, 4700; Nos. 2 & 3, 44,300; Sutro Tunnel, 18,900; Taylor-Plumas, 35,300; Tuscarora, 8300; Unadilla, 1500; Union Consolidated, 1200; Vandewater, 300; Whalen Copper, 560. Non-dividend shares sold, 309,117. Total shares sold at all the Exchanges 554,686.

gan, has declared a dividend of $5 per share, payable at the office of the company, 19 Pemberton Square, Boston, November 15th.

The Holyoke Mining Company, of Idaho, has declared a dividend (No. 2) of two per cent, and an extra dividend of one per cent on the capital stock, payable November 8th. Transfer-books close on the 2d of November, and open on the 9th.

The United Gold Mining Company, of Colorado, paid a dividend, October 2d, of five cents per share.

The Sierra Grande Mining Company, of New Mexico, has declared a dividend (No. 1) of $100,000—being twenty-five cents per share—payable November 1st. Transfer-books close October 27th, and open November 2d.

MEETINGS.

Climax Mining Company, 62 Broadway. Application to dissolve company. Books close finally on November 1st at twelve M.

North Star Mining and Smelting Company, 234 Broadway. Special meeting of the stockholders, November 2d, at eleven A.M., to act upon sale of certain property of the company.

New York & San Jorje Hydraulic Gold Mining Company, Morse Building, 140 Nassau street. Annual meeting of stockholders and election of trustees, November 6th at 13 M.

Vizina Consolidated Mining Company, 28 William street, Room 1. Annual meeting of stockholders and election of officers, November 22d.

REVIEW OF THE SAN FRANCISCO MARKET.

There is not much to be said of the San Francisco market, as business has been remarkably light, although prices have been firmer. The Comstock shares have shown signs of improvement, under a small business, but there is no encouraging news from the mines as far as we can learn. Eureka Consolidated has been notably weak, owing to reports that its bullion production is entirely from custom ores. Telegraphic dispatches state that considerable interest is shown in Gold Hill stocks in consequence of the ore-body in Kentuck increasing in size as the Crown Point line is approached. The Kentuck is now worked under lease. The width of the ore-body has increased to thirty feet. Prospecting in Crown Point to intersect this ore-body is to begin immediately. The outside stocks have been steady. Greater milling facilities for Independence will shortly be supplied. Last week, ore from that mine milled $500 per ton.

SAN FRANCISCO MINING STOCK QUOTATIONS.

Daily Range of Prices for the Week.

NAME OF COMPANY.	CLOSING QUOTATIONS. Oct. 20.	Oct. 21.	Oct. 23.	Oct. 24.	Oct. 25.	Oct. 26.
Alpha	1⅛		1¼		1½	1¼
Alta	½	½	9-16	½	9-16	9-16
Bechtel				3-32		
Belcher	27-32	15-16	1	1	15-16	1
Best & Belcher	5¾	5⅝	5⅝	5⅝	5⅝	6
Bodie	3½	4	4¼	4¼	3¾	3¼
Bullion	11-32	3-16	5-32	3-16		¼
Bulwer						
California	5-16	¼	¼	5-16	5-16	5-16
Chollar	¾	1¼	1¼	1¼	1¼	1⅜
Con. Virginia	21-32	21-32	11-16	11-16	21-32	11-16
Crown Point	1½	1⅝	1¾	1⅝	1⅝	1¾
Eureka Con		10	10		10	11
Exchequer	5-16	¼			5-16	11-32
Gould & Curry	2⅞	2¾	2¾	2¾	2¾	3
Grand Prize	7-16		13-32	5-16	11-32	13-32
Hale & Norcross	1⅜	1¼	1⅜	1¼	1¼	1½
Manhattan						
Martin White	4½	4⅛	4⅛	4¼	4¼	4
Mexican	3¾	3½	3⅜	3⅜	3⅜	3¾
Mono	7-16	½	½	½	7-16	11-32
Mount Diablo		4	4⅛			
Navajo	5⅝		5½	5½	5½	5½
Northern Belle		11¾	11¾	11¾		11¾
Noonday	3-32	3-32	13-32	13-32	13-32	13-32
Ophir	2¾	2⅝	2⅝	2¾	2¾	3
Oro		5-32	5-32		5-32	5-32
Overman	¼	¼	¼	¼	¼	
Potosi	1⅛	1	1⅛	1	1⅛	1¼
Savage	29-32	29-32	15-16	29-32	15-16	1
Scorpion	11-16	21-32	21-32		½	11-32
Sierra Nev	4⅝	4⅛	4⅝	4¾	5	5⅛
Silver King	12½	12¼	12¼	12⅜	12⅛	
Tip Top	2				2	
Union Con	4½	4¼	4⅛	4¼	4⅜	4½
Wales Con			13-32			
Yellow Jacket	1¼	1¼	1⅜	1½	1⅜	1½

Copper and Silver Stocks.

Reported by C. H. Smith, 15 Congress street, Boston, Stock Broker and Member of the Boston Mining and Stock Exchanges.

BOSTON, Oct. 26.

The market for mining stocks the past week shows but few changes, and, except one or two of the Lake Superior copper stocks, has been very dull and featureless. The general market has been heavy, and prices inclined to lower figures. There is but little outside buying, and the market is principally sustained by the brokers; in fact, it is virtually a "broker's market," and until the general public step in and buy stocks, we can not look for any great improvement, either in the volume of business or in prices. In copper stocks, Calumet & Hecla holds steady at $248@$249, but there is very little done in it. The feature in the market was the decline in Pewabic from $107⅛@$84¼, on rumors that the company was about to levy a $5 assessment, but the parties who made haste to sell were to-day anxious to get their stock back again, and advanced the price to $97¼@$10. Franklin, very dull; only 10 shares sold for the week, and those at a decline from $16½@$15½. Quincy is the strongest stock on the list, and the demand for it in the early dealing carried the price up to $70, which, however was not sustained, and it has since declined to $69, closing $69 bid. Osceola, on small sale, advanced to $35½. Huron, dull, and declined from $2½@$2¼ on sale of 100 shares only. Ridge advanced from 75c.@$1, assessment paid. Allouez declined from $2¾@$2½. Brunswick Antimony declined from $10@$8 on the announcement of an assessment of $2 per share.

In silver stocks, Bonanza fairly steady at $3½@$3⅝. Catalpa advanced early in the week from $1.30@1.37½ on favorable reports concerning the mine; declined to $1.25, but has since advanced to $1.30, at which it is quite firm. Crescent advanced from 50@55c., but subsequently lost the advance, and closed at opening price. Sullivan declined from $2@$1¾, and was offered at same price, with $1½ as best bid.

At the Boston Mining and Stock Exchange, business continues dull and without any special feature. As a rule, the stocks dealt in show a decline from last week's prices. There is more doing in other stocks than mining, and there is an effort making to get a share of the railroad business and miscellaneous stocks, which, if successful, will add largely to the success of the Board.

3 P.M.—The market this afternoon was a shade lower,

BOSTON MINING STOCKS.

	Oct. 19.		Oct. 20.		Oct. 21.		Oct. 23.		Oct. 24.		Oct. 25.		Sales.
	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	
Allouez							2.50						150
Atlantic	16.50		16.50				16.25						170
Aztec													
Blue Hill													
Bodie Con			3.50				4.00				4.00		300
Bonanza D	3.50		3.37½	3.31¼	3.37½		3.37½		3.37½				1,250
Bruns. Ant													
Bulwer			1.00										100
California													
Cal. & Hec	248		248		249		248½	248					63
Carbon. Hill													
Catalpa	1.30		1.37½	1.30	1.32½	1.30	1.25		1.30	1.25	1.30		3,930
Central Ariz													
Cherryfield													
Chrysolite													
Con. V'ginia			.70				.66	.65					300
Copp'r Falls							1.75						50
Crescent			.55	.50	.55	.52½	52½		.52½	.50	.50		4,650
Cumberl'd													
"Cusi"													
Deer Isle													
Denver City													
Duncan													
Dunkin			.30										200
Empire			.42		.42	.41	.42		40		42		1,700
Eureka									10.00		9.87½		40
Franklin	16.12				15.50								20
Hancock G							5.00		5.00		5.00		1,000
Harshaw			1.50										50
Horn-Silver													
Huron							2.75		2.50		2.37½	2.25	250
Indian Q'n									1.62½				100
Little Pittsb					1.00								100
Madison			.25										500
Mammoth													
Mass.& N.M.			.22	.20	.20		.20		.21	.20	.21		6,900
Milton													
Napa											4.50		100
National					1.87½								100
North. Belle			12.75										25
Osceola			35.00						35.50				50
Penn-Breck.													
Pewabic	10.87		10.00		10.50	10.00	10.00	9.50	9.00	8.25	9.00	8.75	987
Pine Tree							.25		.23				1,000
Plymouth													
Quincy			68.50		70.00	69 00	69.75	69.50	69.25		69.25		303
Ridge							.87½				1.00		150
Robinson									1.61				200
San Pedro													
Sierra Nev.													
Silver Islet													
So. Pacific			.13		.14		.13		.14		.14		1,400
Standard							4.85						50
Star Copper													
State Line													
Nos. 2 & 3									.14				300
Stewart													
Sullivan											1.75		300
Sutro Tun					.30				.32		.32		500
Sycamore							.35						600
Twin Lead													
Vizina													

PHILADELPHIA MINING STOCKS.

	Oct. 20.		Oct. 21.		Oct. 23.		Oct. 24.		Oct. 25.		Oct. 26.		Sales
	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	
American													
Argent	.18	.17	.17	.16	.17				.15		.15		11,500
Arizona So.													
Aztec													
Battle Mt.			.03		.03				.03				5,000
Black Sul.													
Buena	.04		.04		.05				.04				24,200
California													
Calista													
Cincinnati													
Comprom'e.	.21		.23		.22				.23		.22		3,200
Cons. Va													
Dauntless											.03		2,600
Del Monte													
Denver City			.27½						.25		.25		2,600
Fairview	.02		.01								.02		9,900
Eureka													
Girard	.19	.17	.16		.16								5,900
Golconda			.01										10,000
Golden Age													
Governor	.09	.08	.08		.09						.09		20,100
Grand Uni'n	6		.06		.06								29,000
Gunnison	.82½		.80	.82½	.85								1,700
Hancock													
Hibernia													
Intervener													
Iowa Gulch.	.11		.11		.10	.09			.10				12,900
King Bul'on													
Ledger Con.													
Little Dia'd.													
Little Maud													
L'g & D'y Hl													
McCullough													
Magnolia	.02		.01		.02								7,600
Montana													
Mt. Lincoln													
Mt.Sheridan													
National													
Orion			.11		27½						.27½		1,200
Palmetto E.													
Pembina	.82½	.80			.80								1,800
Penn-Breck.	.19		.22	.19	.21				.20		.21	.20	7,850
Permanent													
Pizarro			.02										4,000
Pizarro Ex.													
Potosi													
Rara Avis			1.02½	.99	1.05				1.02½				1,800
Rara Avis E.													
Rico Pion'r.													
San Pedro													
Silver Cord.					.65				.60		.62½		6,900
Silv'r Plume	.02												2,000
Silver Rock													
Standard													
Sultana	.03		.03		.03				.03		.03		18,700
Sutro Tun'l.	.30		.30		.30								1,300
Tombstone	.93	.90	.92½	.90	.90	.85			.87½		.90	.87½	10,900
Tranquilli'y													
Tyrone													
Union Con.													
Victor	.02												5,000
Yale Mt.			.55						.55				1,600

with the exception of Quincy, which advanced from $69@$69¾, closing $69¼ bid. Calumet & Hecla declined to $247 ; Catalpa sold at $1.27½ ; Huron, $2½, sales and bid ; Pewabic sold at $9¾. Silver Islet declined from $14 (September 27th) to $10, and was offered at same price. Allouez, $2¼ bid, $2½ asked ; Atlantic, $16 bid, $16½ asked ; Bonanza, $3½ bid, $3⅝ asked ; Franklin, $15 bid, $15½ asked ; Harshaw, $1¼ bid, $1½ asked ; National, $2 asked ; Sullivan, $1½ bid, $2 asked ; Copper Falls, $2 asked.

IRON MARKET REVIEW.

NEW YORK, Friday Evening, Oct. 27.

American Pig.—There is a tendency on the part of those consumers who are not supplied by regular contracts to hang back ; but as there is no pressure to sell, prices remain firm at our former quotations, $25 50@$27 for standard to choice brands, ordinary lots, for No. 1 ; $23.50@$25 for No. 2 Foundry ; and $20.50@$21.50 for Gray Forge. Bessemer pig is dull, and is offered in vain at $23.50@$24.50. In England, cable quotations remain 53s. 6d. at shipping ports. Spiegeleisen here continues lifeless at $28.50@$29.

Scotch Pig.—With moderate arrivals, sold mostly ahead, with freights firm at 11 to 12 shillings, and a tolerably fair demand, prices here are firm. Sales during the week aggregate about 1000 tons. Scotch Warrants are cabled to-day 61s. From Glasgow, the Iron and Metal Exchange has the following quotations by cable : Carnbroe, 57s. 6d.@58s. ; Langloan 66s. 6d.@67s. ; Gartsherrie, 65s. ; Summerlee, 64s. 6d.@65s. ; Coltness, 69s.@69s. 6d. all at Glasgow ; and Glengarnock, 57s. 6d.@58s. ; and Eglinton, 52s. 6d., at Ardrossan. Here, we quote Eglinton $23.25@$23.50 ; Glengarnock, $25@$25.50; Carnbroe, $25 ; and Gartsherrie, $25.50@$26.

Rails.—Consumers do not, as in former years, show any particular anxiety to anticipate wants far ahead, and seem inclined to pursue a hand-to-mouth policy. As yet, this has had no effect upon prices, which remain the same as last week, namely, $44@$46, according to size of lot and time of delivery. We note the sale of only about 5000 tons during the week. England is steadily cabling Rails at £5 and Blooms at £4 15s.

Old Rails.—The market has been quiet, little old material offering. We note the sale of about 1000 tons of Ts in lots at prices ranging upward from $26 @$27, and 1000 tons of D. Hs. at $30. We quote at the close $27 asked for Ts and $30 for D. Hs.

Scrap.—The market has been very quiet, and remains nominally $28@$28.50 for No. 1 ex ship.

Philadelphia. Oct. 27.

Business has been very generally suspended during the present week, on account of the Bi-Centennial celebration. Mills and workshops in the city, and very largely throughout Eastern Pennsylvania, have stopped work, to permit their employés to participate in the festivities. It would appear that the opportunity has been very generally accepted, and the city has been crowded all week with large numbers of people. Brokers and commission men generally have closed up their offices, but the few that have remained open report very little actual business transacted. There is, however, considerable inquiry by correspondence, and there are evidences of an improving demand ; but it is probable that if a larger amount of business is transacted, it will be at lower figures than have heretofore prevailed, as consumers generally expect a decline in prices.

Pig-Iron.—Standard brands of No. 1 Foundry are held very firmly by all makers, and nothing but inferior grades are selling below current rates. Best brands are quoted at $27 at furnace for No. 1 ; $25 for No. 2 ; and $23 for Gray Forge. The inside quotations for these brands are respectively $24.50,$23.50, and $20.50. Actual sales late last week and on Monday of this week were at $26 for No. 1 Foundry ; $24.20 for No. 2 ; and $22.50 for Gray Forge. Some buyers are confident that a declining tendency is at work, and that the month will not close before the decline is established ; but all makers spoken to are ignorant of any tendency of that kind, and in fact have orders for more iron than they can deliver within thirty days. Bessemer pig is very dull, and quoted at $24 nominally. Nothing has been done in English or Scotch iron, and, with firm prices abroad and high ocean freights, less will be done. Eastern inquiries have been increasing since the recent advance in foreign products, and deliveries will be made in markets which have been cut off from us for a long time.

Muck Bar is quoted at $42, but sales are made fifty cents on both side of that figure, and the output is generally sold in advance. A few inquiries for Charcoal Blooms indicate that the product will not be permitted to accumulate. Anthracite is sold at $58.

Merchant Bar is quoted at 2·5c.@2·7c. ; mill price, 2·6c. Fair-sized orders can be placed at 5c. readily, and in same places at less in country mills. Common is sold at 2·4c., and several inquiries are reported for this kind to meet car construction requirements, which are increasing. The activity in building maintains a very active demand for nails, which are sold at $3.65@$3.50, according to date of delivery.

Structural Iron is strong and steady, and manufacturers state that the outlook for the winter is as encouraging as at any time for several weeks past. Angles, 3c. ; Beams, 4c.

Plate and Tank.—Plate and Tank continue quiet and with a downward tendency, because of the falling off of the urgent demand which prevailed during the summer. Tank can be shaded at 3c. ; Shell, 4c. ; Flange, 5c. ; large orders will secure a good shading.

Sheet-Iron is strong and steady, with mills oversold. Wrought pipes and tubes are firm, and mills sold for 30 to 60 days ahead.

Steel Rails.—Makers of steel rails report inquiry still fair and the quotations strong at $44@$46. Steel Blooms are dull at $35@$36.

Old Rails are dull at $27@$27.50, and very few transactions can be heard of. Double-heads, $30.

Scrap.—Very little has been done in Scrap during the week, but the general tone of the market is toward firm prices and an active demand. Holders of selected lots find no difficulty in disposing of every thing they can deliver.

BULLION MARKET.

NEW YORK, Friday Evening, Oct. 27.

DATE.	London Pence.	N. Y. Cents.	DATE.	London Pence.	N. Y. Cents.
Oct. 21	51 7/16	113 1/4	Oct. 25	*	112 7/8
Oct. 23	51 7/16	113 3/8	Oct. 26	51 5/8	112 3/8
Oct. 24	51 7/8	113	Oct. 27	51 7/8	†

*51 3/8@51 11-16. †112½@112⅝.

Under the pressure of lower exchange on India and the meager bids received for the Indian Council bills, at its recent weekly offerings, the silver market

has declined, as shown by the figures of the annexed table, and is dull at the rates given.

Bullion Receipts at New York.—The bullion received from the mines at the various offices in this city during the week ended October 27th, as compiled from various sources, amounted to $233,000, as against $145,000 reported for the previous week. The receipts from January 1st, 1882, to date, are $11,477,059.51.

Exports and Imports of Gold and Silver at New York.

Exports.

Week ended October 21st	$59,762
Corresponding week last year	180,486
Since January 1st, 1882	44,387,397
Corresponding period last year	9,145,707

Imports.

Week ended October 21st	$141,371
Corresponding week last year	1,620,938
Since January 1st, 1882	3,945,193
Corresponding period last year	50,186,296

Foreign Bank Statements.—The governors of the Bank of England at their weekly meeting made no change in the bank's minimum rate for discount and it remains at 5 per cent. During the week, the bank lost £193,000 bullion, but the proportion of its reserve to its liabilities was raised from 35 11-16 to 36 7-16 per cent, against 37 15-16 per cent at the same date last year. The weekly statement of the Bank of France shows a specie loss of 6,650,000 francs gold, and 6,350,000 francs silver. A Berlin dispatch reports that the Imperial Bank of Germany gained specie during the week to the amount of 1,340,000 marks.

BULLION PRODUCTION FOR 1882.

MINES.	States.	For the week.	Month of October.	Year from Jan. 1st, 1882.
*Alice, G. S.	Mont.			$644,293
*Alta-Montana, G. S. L.	"			303,996
Barbee & Walker, S.	Utah	$2,500	$5,616	69,642
Betty O'Neal, S.	Nev.			59,220
*Black Bear, G.	Cal.			54,938
Bodie, G. S.	"	10,540	30,616	328,044
*Boston & Montana, G.	Mont.			208,950
*Caledonia, G.	Dak.			62,235
*Caribou, S.	Colo.			126,918
*Central Arizona, S.	Ariz.			140,154
*Christy, S.	Utah			254,888
*Chrysolite, S. L.	Colo.			278,908
Cons. Bobtail, G.	"			83,477
*Contention, S.	Ariz.			1,411,049
Crismon-Mammoth, G.	Utah			63,579
*Custer, G. S.	Idaho			619,258
*Deadwood-Terra, G.	Dak.			491,481
*Derbec Blue Grav., G.	Cal.			115,370
*Eureka Con., G. S. L.	Nev.	19,620	35,090	667,947
Evening Star, S. L.	Colo.			642,520
Father de Smet, G.	Dak.			281,637
*Frisco M. & S.Co., S. L	Utah			271,473
Girard, S.	Ariz.			90,964
Grand Central, S.	"			905,000
*Hall-Anderson, G.	N. S.			7,301
Head Center, S.	Ariz.	5,780	18,230	109,177
*Homestake, G.	Dak.			882,651
Horn-Silver, S. L.	Utah	70,000	217,500	2,797,290
*Hope, S.	Mont.			240,145
Idaho, G.	Cal.			395,540
Independence	Nev.	3,850	7,850	7,850
*Indian Queen, S.	"			138,697
Inyo Cons., G.	Cal.			46,421
Ingersoll, S.	Ariz.			90,000
Iron Silver, S.	Colo.			865,436
*Jocuistita, S.	Mex.			600,419
*†Leeds, S.	Utah			11,988
*Little Pittsburg, S. L.	Colo.			118,543
Manhattan, S.	Nev.			64,300
Morning Star, S. L.	Colo.			333,126
Mount Diablo, S.	Nev.			179,445
*Navajo, G. S.	"	16,140	32,140	168,428
New York Hill, G.	Cal.			56,256
Noonday, G.	"			57,690
North Noonday, G.	"			56,545
Northern Belle, S.	Nev.	21,000	60,289	626,224
*‡Ontario, S. L.	Utah			1,935,048
Ophir, G. S.	Nev.			39,472
*Oxford, G.	N. S.			13,420
Pascoe, S.	Utah			4,575
*Pleasant Valley, G. S.	Cal.			31,938
Robert E. Lee, S.	Colo.			292,550
Savage, S.	Nev.			3,500
*Silver Bow, G. S.	Mont.			236,100
Silver King, S.	Ariz.			258,632
*Spring Valley, G.	Cal.			152,000
Standard, G.	"	20,153	94,553	885,514
Star, S.	Nev.	1,650	4,050	43,946
Stormont, S.	Utah	4,400	9,930	238,374
Syndicate, G.	Cal.		10,500	29,929
Tintic M. & M. Co.	Utah	4,170	8,650	35,184
*Tip Top, S.	Ariz.			191,034
*Tombstone, G. S.	"			590,286
Union Con., S.	Nev.			217,623
Vizina, S.	Ariz.			143,200
Total amount of shipments to date				$21,371,738

* Official. † Net. ‡ Assay value. *G. Gold. S. Silver. L. Lead.*

METALS.

NEW YORK, Friday Evening, Oct. 27.

Copper.—The market remains stagnant, the requirements as well as the offerings being on a limited scale. Lake in small lots changes hands at 18¼@18¼c., and Baltimore, with more frequent sales of rounder parcels, is held at 17⅛@17⅝c. London has fallen off a little, Chili Bars being quoted to-day by cable £70 10s.

Tin.—A continued decline in London has caused much more weakness here, though prices are still upheld for spot and "futures" are still higher. It is becoming apparent, however, that on the one hand high prices have to some extent checked consumption, while on the other hand they have stimulated production. To-day, tin opened at 22¾c., but rallied to 23¼c., closing for spot nominally 23⅛c. for Straits, 23⅜@23½c. for Australian, and 23⅞c. for Lamb & Flag. London cables to-day £101 10s.

Lead.—The market for this metal has weakened considerably, and, though the basis of actual transactions is not really much lower than last week, it is clear that buyers have entirely lost confidence, and can not be induced to take hold, even by concessions. It is asserted that corroders, in fear of early tariff tinkering, are following the policy of reducing stocks; and that the fall trade has been even less than last year, in the face of a largely increased production. Whatever foundation there may be for such talk there is no doubt that it is weakening the market. Small lots of Common and Western Refined have been sold at 4·90c., at which holders would be content to place buyers' lines. It seems, however, as though any such attempt would not prove successful. We understand that foreign lead has been offered here at 4·97c. We quote nominally 4⅜c. for Com, mon, and 4·90c. for Refined.

Messrs. John Wahl & Co., of St. Louis, wire us as follows to-day:

The market remains about the same, if any thing a shade firmer. There is some better feeling due to better inquiry. We quote Soft Missouri 4·62½@4·65c., and Hard nominally 4·60c.

Spelter.—This market is dull and lifeless. One of the largest producers of the West has offered Domestic here at 5·15c. Foreign is nominally 5⅜c. Messrs. Matthiessen & Hegeler, of La Salle, Ill., will soon complete a new spelter furnace, with a larger capacity than any heretofore built. They have stopped one of their four-sheet rolls, having 600 tons on hand. England cables £16 17s. 6d.

Antimony.—Nothing of interest has transpired. In a jobbing way, Cookson's is selling at 12⅜c., Nevada at 12½c., and Hallett's at 10⅞c.

Quicksilver.—This metal is weaker both in London and here. London advices are £5 17s. Here we quote 38@39c., according to quality. San Francisco quotes 37½@38c.

There has been no change in the market during the week. The ruling price is 37¼@37½c., with 38c. asked in some instances. Some of the quicksilver exported is shipped on speculation.—*San Francisco Journal of Commerce.*

COAL TRADE REVIEW.

NEW YORK, Friday Evening, Oct. 27.

Anthracite.

The only thing that is checking trade is the warm weather, and all engaged in the business are anxiously awaiting the first cold snap, which, it is hoped, will carry the trade out of its present condition of absolute quietude. There is a very large tonnage moving—in fact, so large that many, well posted in the trade, are at a loss to explain how it is that, notwithstanding the heavy movement, there is so very little current business. There is again a very strong agitation among the leading companies to give the wheel another turn and advance prices for November twenty cents for domestic sizes. The only claim upon which this is based is, that the market will stand it, and those who are loud in advocating it profess to be getting October prices, now. They must have a peculiar set of customers to get such figures when the trade at large is certainly not doing better than September prices, and is probably not doing much at that.

Freights are unchanged.

The production of anthracite for the week ended October 21st was 692,555 tons, as compared with 707,487 tons the previous week, and 600,640 tons for the corresponding week of 1881. The total product from January 1st to October 21st was 23,057,708 tons, as against 22,305,590 tons for the like period of last year, showing an increase this year of 752,118 tons.

Bituminous.

The conflicting rumors and statements from which we drew the substance of our remarks in our last issue gave rise to an inaccuracy which we feel it our duty to correct, because it might be construed to reflect upon the gentleman who, until recently, was a Vice-President of the Pennsylvania Railroad. The fact is, that some time ago that gentleman instituted an investigation which showed that the general freight agent had far exceeded his written instructions. It was by his advice that the matter was looked into and the action taken was begun upon consultation with him, and by his advice by the proper officers. We are informed that the extent of the special contracts going beyond the instructions and intentions of the railroad has been largely exaggerated. The company has asked all its shippers to furnish a statement of the sales and contracts pending, obviously with the intention of tracing those which are not properly authorized. These will surely be repudiated, and it now seems likely that all others will be accepted. As yet, no settlement has been reached. As the present rates are absolutely prohibitory to Clearfield shippers, the latter are out of the market, and are, to some extent, buyers of Cumberland coal, which is nominally $4.75@$4.80 alongside.

STATISTICS OF COAL PRODUCTION.

Comparative statement of the production of anthracite coal for the week ended October 21st, and years from January 1st:

TONS OF 2240 LBS.	1882. Week.	1882. Year.	1881. Week.	1881. Year.
Wyoming Region.				
D. & H. Canal Co.	89,929	2,808,653	75,041	2,858,981
D. L. & W. RR. Co.	108,851	3,640,726	94,408	3,397,899
Penna. Coal Co.	35,544	1,133,429	35,955	1,115,396
L. V. RR. Co.	23,744	872,886	20,253	918,536
P. & N. Y. RR. Co.	4,000	154,997	3,150	80,207
C. RR. of N. J.	48,974	1,837,231	45,495	1,855,167
Penna. Canal Co.	16,157	408,285	15,891	372,655
	327,199	10,356,207	291,093	10,598,841
Lehigh Region.				
L. V. RR. Co.	114,159	3,839,403	99,905	3,566,548
C. RR. of N. J.	53,619	1,786,244	54,200	1,732,019
S. H. & W. B. RR.		40,983		9,386
	167,778	5,666,630	154,105	5,307,953
Schuylkill Region.				
P. & R. RR. Co.	169,917	5,472,768	153,854	5,523,309
Shamokin & Lykens Val.	25,961	1,013,563		824,254
	195,878	6,486,331	153,854	6,347,563
Sullivan Region.				
St Line & Sul. RR. Co.	1,700	48,440	1,588	51,233
Total	692,555	23,057,708	600,640	22,305,590
Increase	91,915	752,118		
Decrease				

The above table does not include the amount of coal consumed and sold at the mines, which is about six per cent. of the whole production.

Total same time in 1877	15,795,045 tons.
" " " " 1878	13,416,438 "
" " " " 1879	20,998,046 "
" " " " 1880	18,417,650 "

The decrease in shipments of Cumberland Coal over the Cumberland Branch and Cumberland & Pennsylvania railroads amounts to 840,028 tons, as compared with the corresponding period in 1881.

Belvidere-Delaware Railroad Report for the week ended October 21st:

	Week.	Year. 1882.	Year. 1881.
Coal for shipment at Coal Port (Trenton)	3,391	77,276	60,138
Coal for shipment at South Amboy	18,997	674,111	590,278
Coal for distribution	21,251	590,820	563,952
Coal for company's use	2,422	105,610	91,545
Total	46,061	1,447,817	1,305,913
Increase		141,904	
Decrease			

The Production of Bituminous Coal for the week ended October 14th was as follows:

Tons of 2000 lbs., unless otherwise designated.

	Week. Tons.	Year. Tons.
Cumberland Region, Md.		
Tons of 2240 lbs.	46,271	955,351
Barclay Region, Pa.		
Barclay RR., tons of 2240 lbs.	9,044	314,003
Broad Top Region, Pa.		
Huntingdon & Broad Top RR.	6,314	222,950
East Broad Top	2,478	72,415
Clearfield Region, Pa.		
Snow Shoe	4,375	176,589
Tyrone and Clearfield	49,526	2,189,291
Alleghany Region, Pa.		
Pennsylvania RR.	10,978	424,489
Pittsburg Region, Pa.		
West Penn RR.	8,695	270,343
Southwest Penn. RR.	2,765	81,285
Penn & Westmoreland gas-coal, Pa. RR.	21,760	990,286
Pennsylvania RR.	12,230	512,556
Total	174,439	6,209,568

The Transportation of Coke over the Pennsylvania Railroad for the week ended October 14th, and year from Jan. 1st:

Tons of 2000 lbs.	Week.	Year.
Penn. RR. (Alleghany Region)	1,758	87,355
West Penn. RR	1,675	91,072
Southwest Penn. RR	31,196	1,380,127
Penn. & Westmoreland Region, Pa. RR	6,002	200 677
Pittsburg, Penn. RR	8,324	445,134
Snow Shoe (Clearfield Region)	649	16,878
Total.	49,604	2,221,243

Horsford's Acid Phosphate

In Constipation.

DR. J. N. ROBINSON, Medina, O., says: "I have used it in a case of indigestion and constipation, with good results. In nervous prostration its results are happy."